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ABSTRACT

This document presents 48 papers delivered at the 2000 annual meeting of the Council for Programs in Technical and Scientific Communication (CPTSC). Papers in the proceedings are divided into 14 subsections: (1) Keynote Presentation: "Global Classroom Project (T. K. Herrington); (2) Opening Session Address: "What Industry Looks for in Technical Communication Graduates" (B. Johnson, J. van Oss, and D. Tews); (3) Program Identity 1: To Niche or Not To Niche?: "Against the Niche: On NOT Over-Specializing Our Technical Communication Curricula" (S. Bernhardt); "Should We Develop Specialized Technical Writing Programs?" (K. LaGrandeur); "Is the Future Identity of Technical Communication Specialization or Diversity?" (C. Rude); "What about Writing?" (P. Praetorius); (4) Program Identity 2: Do Program "Homes" Matter? "How the Institutional Home Affects a Program" (M. T. Davis); "Why and How Our Institutional 'Home' Matters: Strategic Program Planning in a Specific Setting" (K. R. Schnakenberg); (5) Program Identity 3: Diversification Begins at "Home": "A Case for an Integrated Approach to Program Development" (A. M. Blakeslee); "The Value of Seeking Interdisciplinary Models for Smaller Professional Writing Programs" (S. Blythe); "The 21-Course Undergraduate Program: Strength through Diversification" (A. S. Jennings); "One Department for All? Revising a Technical Communication Program through Interdisciplinary Collaboration" (P. S. Ecker); (6) Program Visions and Re-Visions: "Writing at the End of Text: Rethinking Production in Technical Communication" (J. Johnson-Eilola); "(Deeply) Resisting Arrest: Beyond the Either/Or of Information Technology in Technical and Scientific Communication Programs" (R. R. Johnson); "Re-Visioning and Repositioning Technical Communication Programs in Digital Spaces" (D. Starke-Meyerring and A. H. Duin); (7) Issues Facing Master's Degree Programs: "Timing Is Everything: Integrating Low-Profile 'Concentration' Courses into a High-Profile Master's Degree" (M. Hundleby); "Reflective Instrumentalism as a Possible Guide for Revising a Master's Degree Reading List" (S. Williams, B. Heifferon, and K. B. Yancey); "Thoughts

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on Designing a Master's Certificate Program" (T. Bridgeford); "The Greater the Resistance, the Higher the Voltage? or, How To Know When To Pull the Plug on a Technical Writing M.A. Program" (F. Ranney); (8) Processes and Problems in Program Assessment: "Untangling a Jigsaw Puzzle: The Place for Assessment in Program Development" (R. Munger); "Assessing Existing Engineering Communication Programs: Lessons Learned from a Pilot Study" (M. R. Hovde); "The Thorny Issue of Program Assessment: One Model for One Program" (N. O'Rourke); "What Can Technical Communication Programs Learn from Corporate University?" (B. Faber); "Participatory Design and Technical Communication: Challenges and Opportunities in Programmatic Assessment and Evaluation" (M. R. Moore); (9) Planning and Building Programs: Innovations and Investigations: "Compact Planning and Program Development: A New Planning Model for Growing Technical Communication Programs" (J. Allen); "Building Consortia in Scientific and Technical Communication" (W. O. Coggin); "Sites of Critical Action for Technical and Professional Writing: Community, Corporation, Curriculum, Computing" (J. Grabill and J. Porter); "A Layered Literacies Frame for Articulating Program Goals" (K. C. Cook); "Directing Growth and Growing Directors: Developing Leaders for Technical Communication Programs" (C. Hansen); (10) Strategies for Course and Curriculum Design: "Why Do Students Entering a Major in Technical Communication Resist the Introductory Course?" (D. Sullivan); "Creating Communication Modules for an Engineering Enterprise Initiative: Programmatic and Rhetorical Considerations" (B. Aller and M. S. Clancey); "Usability Testing and User-Centered Design in Technical Communication Programs: Current and Emergent Models" (K. S. Kitalong); "A Proposal for the Marriage of Technical Communication and WAC/WID" (D. S. Bosley); (11) Theory and Practice, in Practice: "Here Comes That Song Again: The Theory and Practice Blues" (N. Allen); "Resistance to Theory in Advanced Technical Communication Classes for Majors" (J. J. Jobst); "What's the Balance? 'Technical' Communicator or Technical 'Communicator'" (S. B. Little); "Collaborating with Student Interns and Graduates To Develop a Research-Based Curriculum in a Professional Writing Program" (G. Smart and N. Brown); (12) Technical Communication and Corporate Training: What Educators and Trainers Can Learn from Each Other: "Technical Communication and Corporate Training" (G. Savage); "The Extension of Technical Writing into Performance Consulting" (J. Hile); "Technical Writers and Trainers as Facilitators of Change" (G. Hotz); "The Dual Mission of the Community College and Implications for Technical Writing Instruction" (S. Kratz); "Blurring the Distinction between Writer and Trainer" (J. Van Dyne); (13) Using New Technologies To Improve Teaching and Learning: "Electronic Support Systems for Technical Communication Teachers" (S. Selber); "Using Web-Based Portfolios To Assist Technical Communication Program Development" (G. Sauer); "Embracing Digital Media in Engineering" (D. Atkinson); and (14) Promoting Programs and Recruiting Students: "If You Build It, Will They Come? The Importance of Promoting Technical/Professional Writing Programs" (C. Patterson); "A Student Recruitment Model for Undergraduate Technical Communication Programs" (B. Butler); and "Growing Technical Communication Programs through Recruiting" (B. Maylath). Appendixes contain the conference program, information on the Distinguished Service Award for 2000, Minutes and Treasurer's report, a list of conference participants, and a list of CPTSC members for 2000. (RS)

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Proceedings 2000
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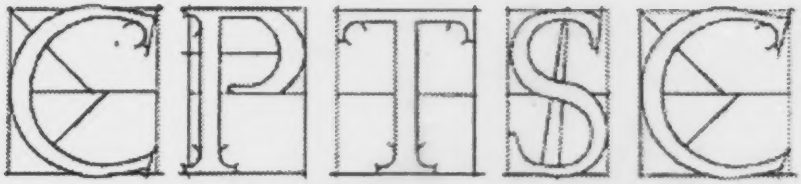

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About CPTSC

Purpose: The Council for Programs in Technical and Scientific Communication was founded in 1973 to (1) promote programs in technical and scientific communication, (2) promote research in technical and scientific communication, (3) develop opportunities for the exchange of ideas and information concerning programs, research, and career opportunities, (4) assist in the development and evaluation of new programs in technical and scientific communication, if requested, and (5) promote exchange of information between this organization and interested parties.

Annual conference: CPTSC holds an annual conference featuring roundtable discussions of position papers submitted by members. The proceedings include the position papers. Authors have the option of developing their papers after the meeting into more detailed versions.

Program reviews: CPTSC offers program reviews. The reviews involve intensive self-study as well as site visits by external reviewers. Information is available at the CPTSC Web site.

Web site: CPTSC maintains a Web site at http://www.cptsc.org This site includes the constitution, information on conferences and membership, a forum for discussion of distance education, and other organizational and program information.

Listserv: CPTSC's listserv is CPTSC-L. To subscribe, send an email message to listserv@clvm.clarkson.edu Keep the subject line of the message bland and delete your signature block if you use one. In the first line of the message type subscribe CPTSC-L Your Name

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About the 27th Annual Conference

This conference was held on the campus of the University of Wisconsin-Stout in Menomonie. It resumed an old CPTSC tradition of holding the annual meeting at the site of a new academic program in technical communication. UW-Stout's Technical Communication became official in June 2000. Many of the students majoring in the program served as volunteer shuttle drivers at the CPTSC conference. The UW-Stout program served as one of the models under discussion at the conference, in keeping with the theme, "Models for Strategic Program Development."

Upcoming Conference

2001: October 11–13, Pittsburgh, PA	Carnegie Mellon University
2002: October 3–5, Logan, UT	Utah State University

Models for Strategic Program Development

Proceedings 2000
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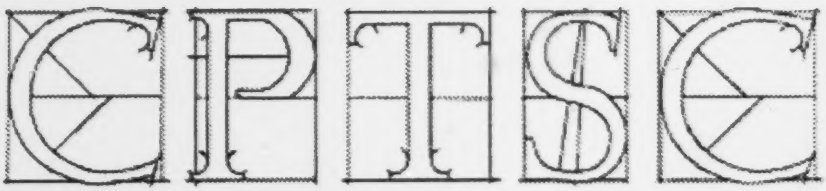

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Global Classroom Project

TyAnna K. Herrington Georgia Institute of Technology

Global Classroom Project Description

The Global Classroom Project is a fledging project in distance education that provides an experiential learning environment supporting joint communication classes in the United States and Russia. Yuri Tretyakov (Director of the Language Departments at the Russian Academy of Sciences and the European University in St. Petersburg, Russia), Kenneth Knoespel (Dean of International Programs for Ivan Allen College at the Georgia Institute of Technology), and I developed the project as a model for using effective pedagogical and technological means to manage cross-curricular, cross-cultural courses, linking students and professors from around the world. The project supports collaborative dialogue within classrooms to foster an atmosphere of mutual understanding and cooperation. We take advantage of Internet technology to effectuate a pedagogy that not only supports but requires dialogue among faculty and student participants. In turn, the Global Classroom Project models a dialogic process of mutual collaboration that can be shared with other educators world-wide.

Successful, nonhegemonic, cross-cultural research and teaching create and strengthen bonds among educators and students and of necessity support ties among universities of which their students and faculties are a part. We hope that our project also provides a baseline of experience in cross-cultural digital communication from which governments and global businesses may benefit. The resulting rewards are broad: student and faculty participants experience real-life cross-cultural, digital communication that prepares them to work comfortably and effectively in global business and government. Universities benefit when faculty and students are trained to access information and collegial participation from intellectual resources from across the globe. Governments benefit in their abilities to rely on educators who are more able to handle the demands of a digital century to prepare citizenships with a broader experience of the world.

The success we've experienced to date with this project only goes to symbolize the nature and necessity of cooperative development of the ideas, pedagogy, technological innovation, and financial support that have made it possible to take our first steps.

Developmental Background

My own experiences at Texas Technological University helped me develop an essential theoretical understanding of pedagogy, communication structures, and supportive literature in the fields of technical communication and computer-based pedagogy, aided by faculty members such as Sam Dragga, Carolyn Rude, and Fred Kemp. My involvement and participation with others in conferences and organizations such as Computers and Writing, ATTW, and CCCCs also provided a range of supportive understanding of the ideas behind the project as well as encouragement to continue developing it. I was also fortunate to be able to spend nearly 10 years applying theory to practice, both at Texas Tech as a graduate student and at Georgia Tech as an assistant

professor, where I tested technology and pedagogy in increasingly complex iterations every semester. During the time period that I was able to develop a sound basis of theoretical understanding and pragmatic experience that allowed me to propose the basis for our electronic exchange, Tretyakov and Knoespel were simultaneously developing a complex but positive and rich administrative relationship between academic institutions in Russia and America.

We were able to build out from a successful exchange program between the Russian Academy of Sciences/European University and Georgia Tech, which was started in 1991, to pursue the project and joint distance research. Over a period of nearly 10 years, faculty and administrators at Georgia Tech and the Russian Academy of Sciences/European University developed a strong, trusting relationship with the exchange of six American and six Russian professors teaching humanities courses and participating in workshops in partner institutions. In 1993, Knoespel, then Director of the School of Literature, Communication, and Culture at Georgia Tech, became an international advisor to the Organizing Committee of the European University, which was formally inaugurated in 1994 under the auspices of the Russian Academy of Sciences. Knoespel received a USIA grant in 1994 to develop work in Scientific and Technical Communication between Georgia Tech and the Russian Academy of Sciences. Georgia Tech's administration also supported my appointment as Fulbright professor at the European University during the fall semester of 1999, where I taught courses in technical communication and English when we began to formulate a feasible working framework and specified administrative support to develop the project. Tretyakov visited Georgia Tech in 1992, 1993, and 1996 as Chair of the Department of Foreign Languages, Russian Academy of Sciences and as Director of the Language Center at the European University. Then in the spring semester of 2000 he began collaboratively teaching the pilot run of the Global Classroom Project on site at Georgia Tech while our colleague, Elena Kazei, taught the course from the European University at St. Petersburg. The long-term work and support of all those interested in seeing our project come to life have allowed us to establish a unique virtual global classroom that provides truly interactive cross-cultural courses.

Pedagogical Structure

It has been and continues to be important that our use of technology does not follow the pattern of often ill-conceived distance learning projects that repackage lectures or correspondence courses through televideo, CD-ROM, or World Wide Web information sites. Instead, we teach joint classes and use technology-supported pedagogy to enable cross-curricular discussion, research, and information-sharing to further scholarship. This method of mutual instruction pedagogy is inherently supportive of democratic dialogue necessary for building effective educational ties among participant institutions. We use technology as a tool to connect ideas and information among students and scholars, rather than focus on technology as an end in itself.

Current Project Activities

To date, our Russian and American students have communicated with each other in shared classes through digitally transmitted discussion on a daily basis during 13 months of three semesters. They very actively collaborated, relying on joint discussion and analyses of field-specific information, culturally based text, and visual communication.

The mutual instruction distance learning methodology used for this course is unique in that it forms the basis for the only course world-wide, linking Russian and American students in truly interactive, experiential learning forums. Graduate and undergraduate students from a variety of majors and research fields have worked together to produce both hard copy and digital products after analyzing issues in cross-cultural digital communication. Their work can be found at http://www.lcc.gatech.edu/projects/globalclassroom

Technology

Since spring 2000, we have used WebBoard Web-based networked communication software to connect students in classes at Georgia Tech and the European University; this software allows graphic as well as textual interchange over distance, making it feasible for students to analyze visual as well as textual rhetorical issues. Our WebBoard software has been running efficiently from a dedicated server at Georgia Tech and has proved to be optimal for our circumstances because it can be accessed from anywhere in the world by anyone with a Web-based connection to the Internet. There are no licensing fees in addition to the price of the software so it remains usable by any number of participants who wish to access it. It is maintained simply at one location, avoiding the problems inherent in using multiple software programs located on many servers and on multiple hardware platforms and operating systems. WebBoard and email allow effective synchronous and asynchronous communication.

Results

As a direct result of the Global Classroom Project, the European University Rector (President), Boris Firsov, has called for curricular restructuring by proposing that the project become the basis for a new minor certificate in English and computer skills in the short term, and a new School of Languages, Computers, and Communication in the long term. The project has provided contacts for the European University and Georgia Tech with other major US universities both in education and research. It continues to provide new courses in communication and culture, enhances courses of English, and has initiated the development of interdisciplinary education and research in both institutions.

Administrators at Georgia Tech have also embraced the project and have financially assisted graduate and undergraduate student work to aid the project further. They have supported cross-disciplinary as well as joint graduate/undergraduate course listings and have approved a Master's thesis/project in Global Classroom Project work. While the project provides students with a strong basis of experiential learning, skills, and insights into communication issues, both specific and general goals of the project support the Georgia State Board of Regents' and university's objectives to pursue global, technology supported, cross-curricular education.

Future Goals

Our most immediate and pragmatic goal is to equip a computer classroom located at the European University to be used primarily for teaching and development activities of the Global Classroom Project. In addition, we hope to develop a structure to provide training workshops in distance learning for faculty participants across Russia/the Newly Independent States, and the US, and to host an international conference in distance

learning where participants will demonstrate the results of the projects they planned and implemented based on workshop training.

Where we have found the communication activities and pedagogy in the project difficult to assess because of their intangible nature, we have developed a new methodology of assessment, and Georgia Tech has financially supported assistance from an undergraduate student to help effectuate this new methodology. The work on this part of the project will be ongoing.

Cross-cultural communication automatically implies using the technology of the Internet, which makes broad-scale cross-global idea and information sharing possible. We will continue the work of students and faculty who are studying cross-cultural and digital communication as subject matter, assessing their own and others' actual communication, and publishing the preliminary stages of their work in a class Web site. In addition to our continued provision of the course, we have also planned that our activities will extend the successful work begun in the project by developing subject-area courses in political science and history of science and technology.

Conclusion

The Global Classroom Project is an experiment in cooperative distance learning that illustrates the necessity and value of collaborative support on all levels of its development. The positive efforts that continue to push the course further are only an extension of the work that students, educators, and administrators have done over a long period of developmental years. The project has and continues to require truly shared pursuit of course goals from participants in Russia and America and will continue to require joint effort from participants from other areas of the world as well, as the project broadens its global reach.

What Industry Looks for in Technical Communication Graduates

David Tews	Weisner Associates Inc.
Robert Johnson	Michigan Technological University
Joseph van Oss	FirstLogic, Inc.

The panel members first presented their views and insights on the topic at hand. The rest of the session was an interactive exchange between panel and audience, which is not captured here. What follows is the text of the handouts distributed to the audience.

Robert R. Johnson, Michigan Technological University

The "Hows" of Technical Communication

Tools: What "tools" should technical writers know? technology tools, knowledge tools, communication tools, interpersonal tools

Skills: writing, speaking, small group work, knowledge management, technical expertise, computer skills

The "Whats" of Technical Communication

Theories: of technology, of history, of ethics, of organizational communication, of information technology, of visual design, of rhetoric and writing, of problem solving

"Big" Issues

Is there/can there be a two-way street between industry and academics in regard to technical communication preparation? That is, do both sides offer equal knowledge, or should, for instance, academics tend to emulate industry (real world) practices in their programs?

Are there distinct differences between how we prepare Master's and Bachelor's degree students in technical communication? What of the Ph.D.? What does industry expect from these different levels of preparation?

David Tews, Weisner Associates Inc.

Technical communicators must learn how to learn.

Today's HTML-based help authors are tomorrow's keypunch operators. Technical communicators must be able to learn and adapt to changing technologies.

Technical communicators must educate themselves in three dimensions:

- Subject matter/product knowledge
- Authoring tools
- Information design, which includes writing, human factors, learning theory, audience analysis, UI design, and usability testing

What industry says it wants is different from what it really needs.

Employers say they need someone with experience with RoboHelp, FrameMaker, etc., and are initially satisfied that they fulfilled the requirement for a manual, online help, etc. What they need is someone with enough profound knowledge to deliver *usable* information.

Technical communicators can earn respect by being knowledgeable and competent.

Technical communication must be regarded as a profession with the same standards of performance of other disciplines like computer science and engineering. Nothing degrades our profession so much as the idea that anybody can do it once they learn the tool. On the other hand, if you produce something that exceeds expectations in terms of fulfilling customer's needs, you will surprise and delight the people who matter.

Credentials are good, but hands-on experience is better.

Degrees and certifications provide some assurance of a minimum level of competence, but nothing beats having to complete a real project with a real deadline and deal with all of the problems and surprises along the way.

Technical communicators must have good people skills.

They must be able to contribute in meetings, work well in teams, and draw information out of subject matter experts and engineers.

Work Cited

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Against the Niche: On NOT Over-Specializing Our Technical Communication Curricula

Stephen A. Bernhardt New Mexico State University

We should not pursue specialization in our programs. We should not become the multimedia development program or the computer documentation program or the medical writing program or the environmental communication program or even the critical literacy program. We should build programs around a broad, useful rhetorical education, coupled with a skill set that all students share in writing and document design. We should make sure all students develop productive relationships with communication technologies. And we should allow students to follow their interests and to find the kind of specialization that is rewarding to them individually.

It is a fool's game to predict where an individual will end up. Fields of study with better alumni tracking than ours, such as engineering, know that few engineers work in their field of specialization and only a bare majority work within engineering. They know how quickly specific knowledge fades or morphs. They turn to our departments to help them instill in students a broad communicative competence as they try to insure a broad set of skills in teamwork, project management, problem solving, and work ethic.

We should do the same. When we follow our students, we find them on unpredictable trajectories. I could not predict that Valerie would end up creating Web materials for the Forest Service after working for NIH on organ donor education among Hispanics. Nor could I predict that Robb would be creating teacher training materials after working in graphics and human factors at IBM. I do know that whatever path they happen to follow, they will surely need skills in teamwork, including managing projects, budgets, and other workers. There are clues everywhere as to the kinds of skills that port well from one situation to the next. We should alert students to those skills and put them in situations where they develop competence while solving complex problems that call upon a diverse array of complementary abilities.

We can map the core skills that our graduates should possess:

- We should make sure that all our students know how to size up a rhetorical situation, apprise the benefits and costs to the individuals involved, determine a prudent course of action, and act with conscience.
- We should ensure that all graduates are good (if not great) writers and editors. Communication has great currency, certainly better than rhetoric, and everyone attests to the need for improved communication skills in all educational and work contexts.
- We should be certain that students develop the ability to research what they need to know—to find the good stuff, to throw out the bad, to recognize good research, to think through the theory, and to arrive at well considered positions to support actions.

- Inescapably, we should be certain students are resourceful and critical users of technology, since communication and work lives in general have become so closely tied to information technologies.

We can be comfortable helping unique individual students develop the skills, abilities, and interests they bring with them to our programs, and we do not need to become overly deterministic with our curricula. We can allow them freedom to pursue coursework, service projects, and internships that help them establish their identities as professional communicators. We can encourage them to develop a portfolio of skills that ports well, and we can help them gain a sense of all the possibilities our field represents. We can then let them be surprised at the opportunities that open up and the willingness of the workplace to welcome a person with a broad and useful set of communication skills.

Should We Develop Specialized Technical Writing Programs?

Kevin LaGrandeur New York Institute of Technology

One of the questions posed in the Council for Programs in Technical and Scientific Communication's annual call for papers is whether schools should develop specialized programs in technical communication or focus instead on broad-based programs. The suggestion is that, in developing technical communications programs, schools might be better off focusing on such niches as environmental, safety, or medical writing; writing for the Web; computer documentation; or multimedia.

As someone who has been asked to coordinate a rethinking of my school's (New York Institute of Technology) technical writing curriculum, I find such a question is paramount. I teach at a small institution, and from my perspective the answer to this question hinges on three primary considerations. First, how does one balance the need to serve the general, liberal education requirements of a small university's students with the need to turn out graduates who have specific, marketable skills (a particularly important consideration in technical writing)? Second, how specialized can we make a program in a college like mine before enrollment figures for these classes drop? Third, are the categories of the niches listed above really mutually exclusive, or can we say that some of them, such as writing for the Web, could be seen as an area of emphasis that could incorporate some of the others? I would like to see these questions discussed at more length by those that plan and implement technical communication programs. In an effort to begin such a discussion, I propose some of my own answers, and in the second half of this paper, I give some practical curriculum suggestions that spring from those proposals. These suggestions take the form of a new course map and new course designs that I, in conjunction with my department's Technical Writing Curriculum Committee, have devised for our technical writing program.

My own point of view on the questions posed above is that writing for the Web should be a primary focus of program development, and that, at least at a small college, most other subjects could be taught under that aegis. Teaching subjects such as medical writing or environmental writing in the context of teaching Web-based communication would, in addition to preparing our graduates for the primary medium they will encounter in the job world, also allow a small technical communication program like ours to more easily accommodate a wider variety of students in any given classroom.

Clustering the subjects we teach under the umbrella of writing for electronic media is also important because the business world seems to be placing increasing importance on Web-related skills. I have just concluded a number of discussions with members of the technical writing business community in the New York City area. Altogether, I talked with 18 technical writers from eight different companies; the majority of these writers either owned or was in upper management in their companies. Many of those who owned their own companies—about half of all those I interviewed—worked not only as technical writers but as recruiters for their industry.

Most of them said that, because of the increasing convergence of computer technology and almost everything else, knowledge of Web-based computer applications would be, next to communication and writing skills, the most essential consideration for hiring in the future. Specifically, those in the industry repeatedly mentioned the same four criteria for hiring: good writing skills, good organizational/project management skills, good interpersonal skills (especially the ability to understand and to elicit information from technical content providers), and a good, working familiarity with computer software and hardware that have to do with technical communication.

The convergence of technical writing, information technology, and Web-design is so prevalent that the technical writers at Morgan Stanley Dean Witter have told me that they increasingly refer to what they do as *information development*, rather than *technical writing*. This sort of mentality is having an impact on what employers require in new technical writing hires. There is a greater emphasis on graphic design, for example. Also, for some particularly technical jobs—such as those that require the writer to work with computer programmers—employers sometimes favor technical professionals or Web designers who can write well, instead of writers who know something about technology or design. Indeed, the resumes that I was shown at Morgan Stanley Dean Witter included a significant number of applicants who had moved from computer science or programming to technical writing.

Another important manifestation of this convergence of Web technology and technical writing is evident in what employers wish to see in job candidates' portfolios. Aside from emphasizing that portfolios were more important to them than a job candidate's educational background, the recruiters I talked with said that computer-based work is especially crucial. The most common computer-based work that they like to see in portfolios includes the following: a Web site designed by the applicant, user manuals, online instructions, PowerPoint presentations, and brochures.

In sum, most employers I talked with insisted that, because of convergence, new employees have at least a working familiarity with Web-based software. Employers generally expect, for instance, a basic knowledge of HTML, the language that is used to write Web pages, and of some kind of Web-design program, such as Dreamweaver. For certain jobs, employers may also look for knowledge of computer-programming languages. One group of professional writers aptly summed up the key consideration in this respect: "Tools come and go, but aptitude and exposure to them is essential."

Thus, for small colleges like the one at which I work, a good, general program emphasizing Web-based and portfolio-ready material might be most fruitful.

Specific Curriculum Suggestions

My consultations with members of the technical writing business community did, in fact, prompt a reconsideration of my school's technical writing curriculum. After researching the programs of a number of other colleges, I proposed, with the aid of our Technical Writing Curriculum Committee, an update of our courses and of the course map for our program. We hope that this new curriculum might more readily answer the needs of diverse students and employers in an increasingly technological milieu. In the section that follows are the text of our course map, course descriptions, and a brief description of the rationale behind them. My hope is that these materials may prove useful for other departments trying to reorganize their curriculum.

Technical Writing Certificate Program Map

Beginning Classes

WRIT 315: Writing for the Technical Professions

Intermediate Classes

WRIT 365: Survey of Document Production
ARTV 110: Visual Literacy

Advanced Classes

WRIT 350: Advanced Technical Writing
WRIT 360: Writing for the Web

Electives (Certificate candidates choose two of the following advanced courses)

SPCH 205: Professional Speaking and Advanced Oral Communication
WRIT 220: Workshop in Publication
WRIT 410: Internship in Technical and Professional Writing
DGIM 101: Introduction to Digital Imaging

Course Descriptions

WRIT 315: Writing for the Technical Professions

Description: Focus: the exploration and practice of effective written and oral communication in professional situations, with particular focus on the technical report and business documents (job application materials, memoranda, letters). Topics include gathering and proper use of information; analyzing audiences; conventional formats; drafting, testing and revising documents; exploration of appropriate technology for technical communication. Oral presentation of final reports using presentation software. Coursework includes a computer lab component.

Intermediate Classes

WRIT 365: Survey of Technical and Professional Document Production
(name and description change; status change)

Description: A survey of the principles, techniques and procedures of electronic and print-based document production. Topics: the relationship between written and visual material, traditional copy preparation and design, desktop publishing, traditional printing techniques for books, brochures, pamphlets, and newsletters. Students will produce their own brochures, pamphlets, and newsletters. Coursework includes a computer lab component.

ARTV 110: Visual Literacy

The Fine Arts Department's Description: "The investigation, interpretation and practice of communicating information and emotions is explored via visual imagery. Using the language of 2D and 3D composition, students are introduced to design fundamentals that emphasize the relationships between line, mass and form in organizing the elements that create statements within the frame. Exercises will be assigned utilizing a wide variety of media. Topics include: the meaning of images in a cultural context; misrepresentation and subliminal messaging in visualization; application of color theory; uses of photography and typography; internet site and page design."

Advanced Classes/Electives

WRIT 350: Advanced Technical Writing (description change)

Description: Advanced training and practice in the techniques and forms of technical writing. Focused around planning and producing electronic and print-based manuals. Topics will include information gathering; usability testing; group collaboration, project management, using text and graphics, relevant technologies, and writing techniques. Coursework includes a computer lab component.

WRIT 360: Writing for the Web

Description: A computer intensive class. Focus on learning and practicing advanced aspects of creating multimedia, hypertext, and on-line help documents. Topics: linear and nonlinear planning structures ("information architecture"), writing stylistics, the rhetoric and use of graphics, linking, reading and editing on-line, project management. Oral presentations of final project with computer-based presentation programs.

DGIM 101: Introduction to Digital Imaging

Description from catalogue: "This course focuses on the uses of the computer as a media development system. Students create imagery using drawing and painting software and explore the computer's potential in new forms of media content. Focus is on the development of the Internet as a resource for communication. Students create a personal web page."

Rationale for Course Structure

The overall organizing principle for the course descriptions was to form the practicum for a given course around specific types of technical documents. Thus, *Writing for the Web* is focused on instructions and online help documents, *Advanced Technical Writing* is focused on manuals, and *Survey of Document Production* is focused on shorter types of literature (brochures, newsletters). The aim of this organizing principle is to avoid repetition of subject matter and to group deliverables with their most common means of production.

In updating our program, the Curriculum Committee and I also thought we should include coursework in visual graphics (DGIM 101 and ARTV 110), given the increasing

role that graphics and graphical literacy play in creating computer-based documents. Besides the practical benefits of teaching students the basics of graphic design for electronic media, we also thought the idea of incorporating other departments' classes, where possible, might generate a spirit of interdisciplinarity. Because technical communicators increasingly cross over into such fields as computer programming, software design, graphics, and business (especially Internet business), we see an increasing importance to nurture ties between technical writing programs and other programs such as computer science, art, business, and, perhaps, marketing.

In revising a technical writing curriculum, then, it is important to consider traditional concerns such as writing skills, interviewing and oral communication skills, and project management skills. But it is also advisable to keep in focus new considerations brought about by changes in the technical communication workplace. Graphical literacy, computer and software literacy, Internet literacy, and interdisciplinarity are increasingly important as we start a new millennium of technical communication instruction.

Is the Future Identity of Technical Communication Specialization or Diversity?

Carolyn Rude Texas Technological University

Technology has paradoxically expanded and contracted technical communication. With the expansion of jobs, particularly in computer documentation and Web development, the demand for academic programs to graduate these workers has also increased. In turn the demand for graduate programs to prepare the teachers for those programs has expanded. Even the growth of international communication as an area of study has followed largely from the export of technology.

Prosperity is seductive. It is all the more seductive because it is a somewhat alien experience for academics and graduates in the humanities where most of the technical communication programs reside. What academic in the humanities would not be heady with the power of leveraging academic salaries because of workplace options, recruiting students at all levels with confidence in the opportunities for students and not just to develop academic programs, enjoying student successes in the workplace, and being able to assert the value of the field to business and engineering colleagues? Yet, good times economically should not deter us from reflection on the consequences of choices we make in responding to our situation (or that we make indirectly by not reflecting and actively choosing). Those choices will affect the identity of technical communication well into the future.

The boom in demands for graduates for the computer industry incessantly directs program resources to meet these workplace needs. Among the needs are conceptual and productive knowledge of the genres of technology: manuals, online help, websites, databases. These genres now dominate, or may even replace, some other conventional genres of technical communication, especially the report and the proposal. These new emphases do not necessarily indicate a loss but rather indicate the way the field changes. The needs of the computer industry point to an increasingly interdisciplinary curriculum, with links to information technology and systems and instructional design (and in that sense the boundaries of the field expand as a result of the influence of technology). Increasingly the value of technical communicators is defined in terms of their ability to organize and manage knowledge. The sophisticated communicator is able to integrate technology into the process of information management and not just the production process.

The workplace also values tools knowledge. Many companies offer the reasoned judgement that it is easier to teach an employee a new tool than to teach that person how to define a problem, research the necessary information, organize a document, write with good style, integrate verbal and visual language and know when to choose one type of presentation over another, collaborate with others, and test documentation. These products of a technical communication curriculum are valuable to any employer who understands that a writer does more than record data that others have created. However, tools knowledge may be valuable not just as an end in itself but also as it is heuristic. Working with RoboHelp, for example, may suggest possibilities for the structure and

style of online documentation. The goal of tools knowledge requires an ongoing investment of dollars into expensive software and hardware as well as an investment of faculty time into knowing complex tools well enough to teach them.

As a program director, I debate how much to invest in a technology-based curriculum and the implications of choices. A few courses don't create an expert Web developer or expert in interactive training any more than a few courses create an expert writer and editor. Thus, a series of courses may be needed to prepare a writer of online help. But new courses displace others, whether they are already in the curriculum or potentially in the curriculum. A curriculum that prepares students for a particular industry shapes itself in a particular way, just as a curriculum that prepares students broadly but with gaps in specialized knowledge shapes itself in a different way.

The incentives for such specialization include the respect that follows from a visible link with workplace practice, placement of graduates, the vitality of existing and emerging technology, and the research opportunities. It is tempting to seize this chance to draw the boundaries around the definition of this ambiguous field and to target an identity and agenda rather than trying to touch so many fields that we touch none.

But what happens to the other interests that have marked the field, especially its research and the interests of its graduate students and faculty? Is there still room for the doctoral dissertation on environmental writing? For the study of citizen participation in decision making? For medical or engineering writing? For the rhetoric of science? For proposals in the nonprofit sector? Do such inquiries now belong to rhetoric rather than to technical communication? Is it fair to encourage such inquiries by doctoral students, and what do the faculty who pursue them bring to the undergraduate curriculum? I feel the contradictory pulls of specialization and diversity especially in advising graduate students at the beginnings of their careers. On the one hand they will be more marketable, at least for the foreseeable future, if they can offer some specialization in technology; on the other hand, to define the field in the terms of technology shrinks its potential impact on other sectors of the workplace and on public and private life, and it shrinks the appeal of the field to those potential graduate students who would like to center their inquiries on technology.

The largest professional association for practitioners in the field, the Society for Technical Communication (STC), might be called the society for computer documentation. The annual conference of STC includes a few papers on arcane topics such as environmental writing, but these are anomalies in the program. Will the conference programs of CPTSC and ATTW ten years hence mirror the STC conference? And if the academic part of the field does retain its diversity, are the interests without substantial workplace counterparts simply academic?

What happens to the field of technical communication depending on whether the choices of faculties at the beginning of the millennium favor specialization or breadth? Perhaps the easy answer is that this is not an either/or choice and that we can be both specialized and broad. I would like to believe this, but numbers caution me from an easy acceptance of this perspective. For example, there may not be time in the curriculum to prepare students both broadly and for the computer industry. There may not be enough faculty to enable a variety of specializations. There may not be enough demand for students with non-technical specializations. As appealing as the *both/and* choice may be, at some point most programs and individuals within it will have to choose.

I see these consequences of a specialized curriculum for undergraduates:

- an identity for technical communication that is easy to market but that constrains diversity
- an identity that always makes the field an adjunct to another, valuable as it enhances the dominant field but with relatively little inherent value
- prosperity, at least for the foreseeable future, measured as academic and nonacademic jobs and the respect that follows
- an increasing gap between the interests of those faculty who do not specialize in technology and the curricular needs of the programs
- influence on graduate programs by defining inquiries that seem significant to the field
- risk of trivializing the curriculum to focus on production technologies and on (mere) documentation of products and concepts that others have developed
- opportunity for expanding the role of technical communicators as they understand technologies not just of production but also of knowledge management

I see these consequences of a specialized curriculum for graduate programs:

- restriction of the fields of inquiry constrained by undergraduate program and workplace needs
- continued demand for graduates, both in industry and in academia
- opportunity for expanding the applications of discourse and technology to nontechnical fields and to knowledge management

The risk of specialization in an academic field is like the risk of specialization in investments: the field rises in a boom cycle and has little to fall back on if that sector fails. A narrow identity makes the field subject to such economic and academic cycles.

On the other hand, failure to seize the opportunity to link our identity to technology may be to cling to the past, to separate ourselves from the realities of the workplace and academia, and to overlook possibilities for developing our technology-related knowledge and for influencing values and uses of technology

I have more questions than answers in the year 2000. Of just one thing I am certain: that program directors need to reflect among themselves on what kind of a future they would like for the field, on ways to respond to workplace influences in a proactive way, on the broad mission of education in a particular field, on academic alliances, and on the links and applications of our knowledge to technology beyond computer documentation as well as to other areas. Otherwise the future will just happen to us, with the directions determined by interests and forces beyond technical communication.

What About Writing?

Pete Praetorius Montana Technological University

"Writing, isn't that retro?"
A student's comment to Craig Waddell

The above student's comment, in response to a writing assignment given by Michigan Technological University Professor Craig Waddell, illustrates the misconceptions that some students have concerning the field of technical communication. But where might such a misconception come from? Like many businesses, many academic programs in professional and technical communication attempt to promote themselves as unique and as filling a particular niche. Such specific orientations can serve a marketing function. For instance, some professional and technical programs use their advertising literature to promote classes that train students in the uses of cutting-edge technologies. And as this conference's call for proposals suggests, some programs may begin to focus primarily on a particular type of technical communication such as computer documentation, medical writing, or multimedia.

However, although legitimate reasons exist for attempting to fulfill a particular niche in order to best serve students who wish to work in a particular industry or who live and work in a particular region, such programs may train students to be overspecialized. Moreover, in addition to training students to be overspecialized in particular genres, niche programs also run the risk of training students to be experts in a technology at the expense of not providing them a solid education in writing. In fact, some students majoring in professional and technical communication may be deluded into believing that their chosen profession is concerned more with an adept understanding of technologies rather than writing. And although an understanding of tools is important, those who work in technical communication have always benefited from being flexible. Therefore, it is important that programs in professional and technical communication place an education in professional writing at the forefront of any curriculum.

I believe that it is good that programs are designing their curricula to accommodate new demands. The fact that some specialty programs are beginning to surface is a good indicator that the field of professional and technical communication is growing; my use of the word *professional* as well as *technical* is indicative of this growth. Our field may be (or at least be on the verge of becoming) too big for one program to adequately cover all of the occupations that our graduates may find themselves. But just as the different disciplines that encompass the life sciences still require students to be educated in general biology and chemistry, so too should the students of professional and technical communication receive such general training—in their case, such training should be in writing.

General professional writing instruction should play the center role in professional and technical communication programs (especially undergraduate programs) because such instruction will provide students with the most options. Consider the common refrain that most people will hold several jobs during their lifetime. Such jobs may be

within the same field, or may be in completely unrelated areas. Wholesale career changes are increasingly common out of both necessity (fields of work come and go) and choice (people tire of one job and have the wherewithal to choose another). By providing a solid education in professional writing, programs will be providing their students with the ability to adapt to the professional world around them.

How the Institutional Home Affects a Program

Marjorie T. Davis Mercer University

Where a technical communication program is located within a university has a profound impact upon the nature of the program. Academic location significantly affects the mission and purpose of the department; examples are a department that exists primarily as a service department, a dual-purpose department that offers both service courses and degrees, and an optional track within some other major, such as English, business, or engineering.

The academic home also determines the primary contexts within which a program operates. If it is located within a literature department, for example, the technical communication program will have great difficulty legitimizing the professional - orientation towards real-world contexts for courses, time to supervise internships, etc. If it is located within a professionally oriented department, such as engineering, business, or agriculture, the attitudes towards career focus will usually be more positive.

The way the program handles technology is also affected by the department's home. When other departments within the same context regularly have up-to-date laboratories as an expectation, the technical communication department has a better chance of providing state-of-the-art hardware and software for its students and faculty. Additionally, the expectation that students will master a wide number of technologies (many on their own) is easier within a technical context.

One of the most significant differences has to do with the role of design in the curriculum. In engineering, for example, design is central to degree requirements, and thus coursework involves a great deal of design. In some technical communication programs, academic papers, rather than assigning deliverables requiring designing and producing a usable product, still make up the majority of course assignments. There is plenty of room to do both the theory and the production inside most courses.

Faculty status and collaboration are two additional variables affected by the department's home. In disciplines related closely to science and technology, salaries and faculty status tend to be better for technical communication faculty—at least, from my own experience. Additionally, the idea of collaborating on research is a staple in technical disciplines, whereas it is usually not accepted as well in the humanities.

Finally, the way technical communication alumni are perceived by industry when they search for jobs differs depending upon the academic home of the program. Graduates from a school of business or school of engineering will be regarded differently from graduates of liberal arts. In my experience of my alumni, having the degree from the engineering school means that salary offers and advancement opportunities are better in highly technical companies.

For the first time, many academic programs are starting to talk about breaking free of a restrictive academic home. At CPTSC 2000, conversations emerged about creating a kind of interdepartmental home or an interdisciplinary department or some other collaborative approach. As program directors plan for the future viability of their technical communication degrees, perhaps they should think *outside the box* about

what power structures are present and whose interests are being served. With this critical assessment in hand, technical communicators should be better prepared to access the ideologies and stances of all stakeholders and to make more ethically positive decisions as they negotiate these landscapes and produce their documents.

The Value of a Layered Literacy Approach

This frame identifies six literacies that lie at the heart of most technical communication programs. Yet few, if any, of these literacies are taught in isolation; rather they are almost always taught in layers within our assignments and are extremely fluid. To some, this fluidity may be troublesome because distinctions are often blurred, yet this fluidity allows instructors to create activities that promote multiple or layered literacies and develop many skills simultaneously. Of course, no one should expect a single course (or even a program) to conclude with all students knowing everything about a subject or employing all six literacies equally as well. These six literacies may not, in fact, be achievable without consistent and repeated exposure to all. Still the interrelationship of literacies suggests that individual courses might introduce all literacies while foregrounding just a few or that certain courses and instructors will more strongly emphasize some literacies over others. Whatever the emphasis—a strong emphasis on one or two multiply layered literacies or broader introduction to many of them—this layered literacies frame can encompass the pedagogical goals most scholars in our field promote and most programs value. By articulating technical communication course goals in terms of these six key literacies, program directors and instructors can better evaluate how well their programs instruct students in these literacies overall.

- An awareness of one's own ideological stance as well as the given audience's stance(s).

These skills or abilities require students to understand, analyze, evaluate, and employ various persuasive strategies based on their knowledge of audience, purpose, writing situation, research methods, genre, style, delivery techniques and media, including graphics and illustrations. Effective use of these skills marks students' rhetorical literacy.

Social literacy Developing social literacy requires students to work with others in a variety of capacities: as members of a document cycling team, for example, or as an individual collaborator who supports another writer's inventional processes through email correspondence. Along with the ability to write well with others and to help others write, socially literate writers demonstrate other qualities as well. They should be able to identify and work within organizational settings (and sometimes work to reform these settings). They should be able to communicate a purpose or intention for their collaboration with others, and they should be able to handle conflict within groups positively and constructively. In addition, they should recognize their discourse communities' social conventions and expectations for document design and graphical display of information.

Technological literacy Technological literacy is far broader than its first articulation: it is more than knowledge of electronic tools. In its broadest sense, technological literacy has the following characteristics:

- a working knowledge of technologies that helps professional communicators to produce communications, documents, or products;
- an awareness of how these technologies promote social interactions and collaboration;
- an ability to research how users work with technologies; and
- an ability to critique this research and act upon it to make decisions and produce documents designed with and for users.

As this definition illustrates, technological literacy, like other literacies in this frame, rarely works alone. For this reason, it should not be taught in isolation; rather it should be layered with instruction in other literacies for best effect.

Ethical literacy Ethical literacy develops from technical communicators' knowledge of professional ethical standards as well as a consideration of all stakeholders involved in a writing situation. Ethically literate technical communicators possess a complex understanding of what ethics are and how individuals may use them to solve problems and make decisions in the workplace. Strengthening this literacy not only enhances students' abilities to make decisions that are grounded in their profession's ethical principles but also enhances their decision-making by making them more cognizant of ethical implications of their decisions, including their responsibilities as citizens and workers in society.

Critical literacy Arriving at writing solutions or making writing decisions sometimes requires technical communicators to position themselves differently in order to understand how all stakeholders will be affected. Critical literacy thus promotes reflection, critique, and action. Used strategically, it allows technical communicators to situate or reflect upon their writing within its social, political, technological, and ethical landscapes. It provides them with a means of critiquing these landscapes to determine

A Layered Literacies Frame for Articulating Program Goals

Kelli Cargile Cook Utah State University

Anyone who presumes to use language for workplace tasks and problem solving will need literacies beyond the formal ones traditionally and historically at the center of technical communication programmatic instruction. Today's technical and scientific communication students must possess multiple literacies to be successful in the dynamic workplaces they will enter, no matter what their chosen specialties: environmental, safety, medical, information technology, or multimedia writing. To meet students' needs whether they enter programs for a single course or a course of study, I propose a pedagogical frame for articulating technical communication program goals. This frame is defined in terms of six key literacies: basic, rhetorical, social, technological, ethical, and critical.

The Layered Literacy Frame

Basic literacy Historically, basic literacy was the foremost and sometimes only pedagogical goal of early technical writing classes. Conventions and rules for grammar, syntax, and document design and graphics governed how documents were written and how data was represented graphically; consequently, instruction focused on rules and principles of grammar, mechanics, style guides, generic forms, and document design guidelines. Restricting literacy to such codified skills and forms, however, denied the significance of audience, discourse communities, and social contexts upon writers' choices and limited students' abilities to solve writing problems with narrowly defined solutions. Layered with other literacies, however, basic literacy in reading, writing, and visual design becomes a method for gathering information more efficiently; making appropriate reader-based decisions about data presentation, document form, and document construction; engaging readers through effective and appropriate reader-based writing techniques; and responding to and within complex writing situations. That writers should be able to make informed decisions about their usage, grammar, mechanics, styles, and graphic representations based on their knowledge of their readers and writing situations and be able to adjust their reading for different purposes are the goals of layered basic literacy.

Rhetorical literacy Rhetorical literacy specifically refers to a variety of skills or abilities:

- An understanding of the audience's role in shaping effective discourse.
- The development of analytical skills for identifying and responding to the audience in terms of the communication's purpose and the writing situation
- The critical selection of inventional strategies considering audience, purpose, and writing situation.
- The successful implementation of inventional strategies in order to achieve communicative purpose(s).

Sites of Critical Action for Technical and Professional Writing: Community, Corporation, Curriculum, and Computing

Jeff Grabill Georgia State University
Jim Porter Case Western Reserve University

This presentation explored four potential sites of critical action for programs in technical and professional writing/communication: community, corporation, curriculum, and computing. Some of these sites (e.g., corporation) have already received attention in the field; other sites (e.g., community) are relatively un- (or under-) examined.

We see these sites as suggestive of an agenda for technical and professional writing—an agenda that would encourage technical and professional writing programs to reconfigure themselves institutionally (for example, outside English departments or even outside the universities). Our position is that the field needs to think more broadly and more carefully about its location and status within the university vis-a-vis its responsibility to advocate effective writing and communication practices. We see the "four Cs" in our title as suggesting institutional levers and categories of thought for changing the status and role of technical and professional writing.

A focus on "community," for example, asks programs to look beyond the usual (and nearly exclusive) focus on corporate liaison. A community focus involves developing initiatives in civic activities like planning, community health activities associated with public health institutions, and, of course, service learning relationships with community organizations. Community work such as this involves significant professional and technical writing—though the field has not done much work on writing in the non-profit sector. A curriculum coordinated with a research focus might study writing in non-profit organizations and with communities who need better health and safety documentation. Such an initiative might also focus on the increasingly wider and deeper penetration of technologies into people's lives, both as academic research and as usability research in partnership with corporations.

At the same time that we advocate developing community connections, we don't intend to neglect corporate partnerships. Technical and professional writing programs are in a position to benefit from corporate partnering, as universities move more toward funding based on a model of corporate (vs. public or tuition) support. Despite potential pitfalls (to be discussed), corporate partnering may be more supportive of writing and communication initiatives than universities have traditionally been.

Our goal in rethinking technical and professional writing curriculum and program designs is to position technical and professional writing programs to have more impact at the university, in the workplace, and in the public sphere.

expertise for the financial contributions they make to our programs. We do not ask for money; we provide services.

Building Consortia in Scientific and Technical Communication

William O. Coggin

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When many of us began to establish our programs in scientific and technical communication our main concerns were establishing a balance between technology and communication, establishing internships, and getting acceptance in whatever department in the university we happened to be part of. While those concerns still remain, we are faced with new, additional issues as well as new problems associated with the older but still present issues in establishing and maintaining programs. This paper will note some of those issues and will make some suggestions for helping to approach them. I will not presume to have solutions, just ideas about which we can talk to perhaps help focus some discussion leading to some solutions. Rather than focus on each specific problem, I want to focus on a specific approach to new programs which, I think, might be a way to approach many of the problems and challenges we face in a global, electronic environment. The approach to a solution, which I'm proposing, is developing "joint ventures" or "consortia." I'll herein explain my definition of joint venture or consortia programs.

Within the call for abstracts for this meeting, we had questions that talked about, for example, how schools might have different expertise and might be suited for different approaches to technical communication. They further asked how we might monitor programs and help programs develop. (Obviously, this is my interpretation of the questions.)

The following are, I believe, true for programs:

1. Few can afford all the faculty required to maintain expertise in all areas of technical communication.
2. Few can afford all the equipment (hardware and software, for example) required to constantly remain state-of-the-art programs.
3. Few can afford the faculty needed to teach all the courses and maintain and develop internships.
4. Few can afford the associated costs and personnel involved in creating and maintaining global programs.

Any program which hopes to maintain itself in the environment we now face needs to address these problems. Thus, at Bowling Green State University, we are moving into a new area of cooperation, which I think can become a model for other schools. That is, we are building cooperative ventures among many schools with technical communication programs, both within and outside the US, and are developing real partnerships with industries. Real partnerships and joint ventures include, for example, sharing the degree-granting with the other universities and working with industries so that we provide them

because you have convinced him/her that the quality would suffer. It's better to do nothing.)

This idea of planning directions for our technical and professional communication programs should help us grow in appropriate and carefully considered directions, helping us continue to meet the needs of our students, as well as our academic and nonacademic partners. Further, the process itself reinforces the "team approach" to planning for both directors and faculty and helps clarify and refine the distinguishing elements of each program.

arenas, prompting the response "What's the rush?" or, alternately, "Why hasn't this been done already?" In either case, program directors and faculty must be able to show their understanding of all the details required to achieve a particular goal, as well as the need for an appropriate level of momentum or enthusiasm to accomplish that goal. Realistic milestones and inclusions of appropriate partners should be included in the planning timeline.

5. *The assessment of their progress*: In line with the goals and rationale articulated above, the director(s) and faculty should determine how they will assess the success of their work. While we typically think of assessment in academic programs as being heavily tied to student performance and measured by tests and papers and projects, programmatic performance often looks quite different, as the compact plan's initiatives demonstrate. Thus, the assessment might be something as obvious as a "yes" or "no" response (e.g., Did we establish a doctoral program?). But the assessment might also require more substantive evaluations and determinations of successes, such as measures of academic rigor, recognition among nonacademic partners as a leader in providing technical/professional communication instruction for a particular industry or corporate setting, or increased numbers of students participating in internships and cooperative education opportunities and higher evaluations from both students and employers regarding those experiences.
6. *The costs of achieving the goals*: In my experience, few ideas in academic planning are dismissed because they are "bad ideas." It happens, of course, but by and large the majority of ideas that are not pursued are simply too high and the goal is not a significant enough priority. As technical and professional communicators, we are surely accustomed to making a persuasive case for investments. We must not forget matters of audience and motivation when we offer new plans and goals for our programs, but realistic determinations of costs and benefits are equally important. First, therefore, directors and faculty may find it valuable to "chunk" requests (just as we typically do with technical information) into manageable pieces. In other words, it may be wise to get approval to implement the first part of a plan, along with its costs and assessments of success, before attempting the great leap into the entire plan. Second, a sense of "where the money is coming from" is critical to capturing the interest of the beleaguered dean or provost who feels like the proverbial money tree. Getting commitments from the department or looking at ways of reallocating resources are common strategies for funding a goal, but increasingly valuable are pursuits of external funding sources. Fortunately, technical and professional programs have a wealth of potential donors: the corporate and industrial partners to whom we send our students for internships, cooperative education experiences, and, ultimately, jobs. Many of these partners are quite amenable to helping fund educational initiatives (especially for their pet programs), if only someone will ask. Third, it often helps to create two scenarios for funding: one representing the "best case" and explaining how those funds will be used and the other a "minimalist approach" that will describe how its funds will be used and how the program differs (i.e., suffers) from the lack of more generous funding. (I would, however, discourage attempts at making the funder feel guilty enough to fund the higher level request; it is as likely that he/she will nix the project or goal

Compact Planning and Program Development: A New Planning Model for Growing Technical Communication Programs

Jo Allen North Carolina State University

In addition to long-term strategic planning, some institutions are now participating in compact planning—a new planning process that requires programs to articulate their short-term goals (two-three years) in terms of their and the institution's mission and priorities. As a complement to strategic planning, compact planning is an iterative process that moves up and down the hierarchy of the institution, beginning with the faculty and moving "up" through the dean and provost and chancellor/president and then back "down." Agreements on compact plan initiatives focus on five central elements: the proposed initiative and rationale, the plan of action, the schedule of activities, the assessment of the initiative's success, and its costs.

I believe technical communication programs could also benefit from such planning strategies. The process would require directors of programs and their technical/professional communication faculty to agree on the following key elements:

1. *The mission of the technical/professional communication program*: The faculty might explore the program's role as a service or degree-granting program, the kinds of courses and assignments they value, the needs of industry or corporate partners in assuring the relevance of their program, and other issues that help define the program. This discussion typically incorporates the mission of the institution as an important aspect of the program's mission.
2. *The goals of the program*: While maintaining the status quo may be the primary goal for some programs, others will probably want to explore and express their desire to offer degrees (at the bachelor's, master's, or doctoral levels), to hire more tenure-track faculty (or adjuncts or instructors), to incorporate more experiential learning (internships, cooperative education opportunities, work study relationships, part-time consulting projects, etc.), to establish partnerships with other programs or with corporate/industry advisors, to increase the academic rigor of the program in some specific way, to distinguish the program as one that emphasizes some particular application of technical/professional communication, or to pursue any number of other goals.
3. *The rationale for those goals*: At this point, the director(s) and faculty should carefully articulate the benefits of pursuing the goals, taking care to look for misalliances that can cripple their intent (or their program). More particularly, they should consider the ways in which they will be able to determine the success of their goals.
4. *The plans for timing and implementation*: Key to planning is the sense of when and how quickly a group intends to move on an idea. The sense of urgency is probably one of the most miscalculated elements in academic

Participatory Design and Technical Communication: Challenges and Opportunities in Programmatic Assessment and Evaluation

Michael R. Moore Michigan Technological University

Technical communication pedagogues that are informed by theories of participatory design offer new challenges and opportunities for both the assessment of student work and group projects and in the evaluation of programmatic goals.

Because participatory design activities promote critical approaches to the design, development, diffusion, and documentation of technological systems and innovations, technical communicators, students, teachers, and program directors can bring to their work increased attention to the supposedly democratic nature of information technologies; to issues of access and technological literacies; to assumptions about rhetoric and design; and to theories of collaboration.

Program administrators in technical communication already face problems of how to assess student work and group projects that are multi-authored, hypertextual, multimedia rich, done in collaboration with community or industry partners, and distributed locally and globally within seconds of composition. I began my discussion of participatory design with some positions on qualitative portfolio assessment done in collaboration with cross-disciplinary colleagues and community- or industry-based partners as a way to situate contemporary strategic program development.

I then invited discussion on how to evaluate—from a programmatic perspective—the effectiveness and sustainability of participatory design practices, especially on campuses where technical communication is viewed as a service course or where funding is provided for instrumental, or skills-based training.

I provided models of students' articulation of choices and decisions that they made on a weekly basis as an ongoing, in-class assessment instrument, and drew from those some larger contexts that teachers and program administrators can consider in the thoughtful design of participatory pedagogies and critical approaches to technical communication.

What Can Technical Communication Programs Learn from Corporate Universities?

Brenton Faber Clarkson University

As technical communications programs consider their strategic program development, it is important for us to consider a variety of program development models that exist both within and outside of traditional university contexts. This paper presents several alternative models for program development employed by leading corporate universities. These programs emphasize on-demand learning, immersion and experiential learning, and highly accountable educational experiences. This paper does not argue that technical communication programs should simply import these models from corporate settings. Instead, it suggests that corporate approaches bring many important issues to the table that strategic program developers need to evaluate and discuss as they consider their own program development.

Corporate universities are for-profit educational sites developed, administered, and financed entirely by a corporation. Using an educational model that encourages continuous learning, hands-on pedagogy, and rapid employee socialization, many corporations have turned their in-house training departments into stand-alone educational facilities. By the early 1980s, there were approximately 400 corporate universities in America. That number grew to over 1,600 in the 1990s, with 40% of Fortune 500 companies managing their own universities. At this rate of growth, the number of corporate universities could exceed the number of traditional universities in America by 2010.

In some cases, a corporate university exists entirely virtually, through a series of web-based or CD-ROM courses that students take in specialized fields. In other cases, the university exists much like a typical college campus with residences, libraries, classrooms, and athletic facilities. To date, most students are company employees who have been sent "to campus" for training; however, several corporate universities have begun to offer degrees and courses to the general public.

With a view to the mid-point of a two-year study of corporate universities, this position paper discusses the course development and assessment model employed by leading corporate universities and emphasizes the connections between course development, corporate need, educational accountability, and on-demand, immersion learning. This context of course development may present unique development options for technical communication programs. At the same time, one must acknowledge that the corporate educational environment exists in a different arena than most university courses and programs.

- Student course evaluations are also tabulated by semester in the same archive
- Finally, from these three sources of data, and from a record of curriculum meetings held every two weeks throughout the year, a member of the curriculum committee writes a formal report and submits it to the department chair.

The Thorny Issue of Program Assessment: One Model for One Program

Nancy M. O'Rourke Utah State University

Recently on the ATTW-L, a member asked for specific models of online technical communication program assessment. Others asked for the information as well. Another response stated the impossibility of an assessment model, asking who, what, why, and how such an endeavor could be done. I contend that it is possible, but careful thought and analysis of the audience for and purpose of the assessment needs to take place.

Assessment is a thorny issue but a vital one. Accreditation teams not only want to see assessment plans in place but also data gathered from them. ABET is a good example. Further, faculty, administrators, and students need formal rather than informal documentation of the growth or demise of either new or existing programs.

My position is that each technical communication program probably needs an assessment plan targeted to that program. Obvious reasons include the nature of the student population (cultural and audience issues), the nature of the program (service courses for a broad spectrum of majors, an on-campus degree program, an online degree program), location of the program (in English, in engineering, in communication, in agriculture, for example), the nature of the faculty and their expertise, and, finally, the design of the program itself. Who better than the program faculty to plan, develop, and implement the assessment documentation?

For your discussion, I offer a model of one technical communication program assessment plan. The program leads to a B.A. or B.S. in technical communication at a land grant university. The state where this program is located has a number of high technology organizations. The economy is presently very healthy, and jobs are readily available at competitive salaries. The program is located within a department of English. The faculty has a wide range of expertise, experience, and record of research in rhetoric, report writing, procedural writing, editing, document design, proposal and environmental writing, usability testing, publication management and production, computer documentation, distance education, and multimedia. Each faculty member also has a number of years of consulting in the workplace.

This model consists of four parts: instructor evaluation data, evaluation of student portfolios, student evaluations, and an annual report.

- An instructor evaluation course tool is used at the conclusion of every technical communication course to record how the instructor conducted the course, how students responded to various aspects of the course, and the success or failure of particular projects undertaken during the course. This self-reported data becomes part of a reference archive.
- An evaluation of student portfolios tool is used twice, first by the instructor teaching the portfolio course (capstone) and second, by at least two other faculty members the following academic year. This data is tabulated for the archive.

Delivery is extemporaneous, not read or memorized						
Pace and volume of the voice is at appropriate level						
Body language is relaxed with adequate eye contact						
Visual aid equipment is used smoothly						
Questions and answer time is handled well						
Speech is appropriate to audience and the speaker's role						
Overall rating	5	4	3	2	1	

Appendix B – Rating sheet for speaking samples

Criteria for Assessing Students' Workplace Speaking Abilities

Communication Assessment Team

Fall 2000

Rater Initials ____ Major of student _____ Speaker Number _____

	Excellent		Good		Weak	NA
Introduction orients the audience adequately.						
Content is selected appropriately for purpose. Data is accurate and sufficient						
Assumptions are explicit. Analysis is logical, appropriate to the field, and to overall purpose. Arguments are sound. Data are appropriately interpreted.						
Conclusion is appropriate to the content and situation						
Speech is organized so that audience can process information easily. Structure of the speech is clear to the audience.						
Visuals help to make the point and are clear and easy to read for the intended audience						
Wording is concise, clear, and easy to follow. Style is consistent and appropriate in formality. Word choice is appropriate to the audience.						
Length is appropriate						
Grammar follows standard conventions						

Appendix A – Rating sheet for writing samples

Criteria for Assessing Students' Workplace Writing Abilities

Communication Assessment Team

Fall 2000

Rater Initials _____ Student's Major _____ Writer Number _____

	Excellent		Good		Weak	NA
Introduction provides background and a forecast of the document. Problem or situation is defined clearly with orienting material for audience						
Content is selected appropriately. Data are accurate and sufficient						
Assumptions are explicit. Analysis is logical, appropriate to the field, and to overall purpose. Arguments are sound. Data are appropriately interpreted.						
Conclusion is appropriate to the content and situation						
Document is organized so that audience can process information easily.						
Visuals help to make the point and are clear and easy to read for the intended audience						
Wording is concise, clear, and easy to read. Style is consistent and appropriate in formality. Word choice is appropriate to the audience						
Page layout is effective and professional looking.						
Length is appropriate to audience, situation, and content						
Spelling, grammar, and punctuation follow standard conventions						
Credit is given for work from other sources						
Document is appropriate to the situation						
Overall rating	5	4	3	2	1	

E & T faculty, they noted that in their experience with workplace communication, as long as the writer has given credit, the omission of quotation marks is not as serious as it would be in academic writing. Although I still plan to discourage students from using large quantities of someone else's text without quotation marks in reports for technical communication classes, I now have a broader perspective on the ambiguous nature of plagiarism in workplace communication. In addition, I have gained additional perspectives about the nature of the content that E & T faculty members expect their students to include in their workplace communication.

3. The logistics of assessment may be more difficult than anticipated. Simply collecting samples of student oral and written communication work involved my having to remind the faculty of designated technical communication courses to collect samples and to give them to me in a timely manner. We needed time to conceal identifying information and to copy papers so that we could conduct assessment before faculty members on the teams left for their post-semester activities. We also had to coordinate the logistics of videotaping speeches from several classes.

Furthermore, compiling results and interpreting their meanings takes more time and mental concentration than I had anticipated. (Fortunately, for the pilot year, we had chosen to assess samples from the students of only two of our majors.) We needed to look into how to store all of the artifacts. These logistics were made somewhat easier by the administration's provision of additional clerical help for the communication assessment, but they still require a great deal of attention.

As we enter our second year of communication assessment at the Purdue School of Engineering and Technology, the lessons from the pilot study continue to be useful to us. These lessons should also prove helpful to those designing or redesigning an engineering or technology communication assessment program in other institution as they explore ways to recruit willing engineering and technology faculty, ways to use assessment activities as professional development for faculty members, and ways to make judgements about the logistics of assessment in a program where circumstances may vary from those that I encountered. These lessons should prove useful as people make decisions about customizing communication assessment practices to fit local situations and goals, as many proponents of effective communication assessment have advocated (CCCC Committee on Assessment).

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Data gathered from the ratings of these features were intended to be used for departments as they ascertained student areas of weakness; these areas could then receive particular attention in curricular revisions. These rating sheets do not use traditional assessment rubrics in which a definition of the quality of each item is listed because we found such defining would have made the instrument too cumbersome. Both teams generated such definitions informally through our discussions, both before and after we had assessed artifacts.

We based the design of the process on the assumption that we were assessing workplace communication abilities that students had developed throughout their entire course of study, not just in the technical communication classes. Although samples were taken from technical communication courses, the results were returned to the major departments to use as a basis for curricula decision-making.

Lessons Learned

In carrying out this pilot study, I learned several valuable lessons, including:

1. E & T faculty were surprisingly eager to participate in communication assessment. Because our E & T faculty members are busy and because many of them doubt their communication abilities, I anticipated resistance to communication assessment from them. However, I found that the four that participated with me were eager to contribute as we drew up criteria and processes for communication assessment.

Part of the reason for this cooperation may be that the dean of our school has frequently expressed support for all aspects of assessment. In addition, I chose people who had workplace experience and a great interest in teaching and students. In our training, I also focused on what they already knew about many of the features that mark successful workplace communication. Most of the criteria on the rating sheets came from the E & T faculty members on the teams. This training allowed them an opportunity to articulate and reflect upon criteria for effective workplace communication that up to that time had remained largely tacit. From this I conclude that reluctance and resistance may be diminished of team members are carefully chosen, if their training is designed well, and if the effort has the administration's support.

2. Designing a communication assessment process can provide valuable professional growth for participating members. Several of the E & T faculty members mentioned that participating in generating assessment rating sheets have them more of a grasp on assigning and evaluating students' communication activities in their classrooms. Although the E & T faculty members on the team initially generated only style and grammar criteria for the rating sheets, through further discussion they were also able to generate criteria for the reasoning, the organization, and the audience-appropriateness qualities of engineering workplace communication. Articulating their engineering communication criteria and having those criteria validated by team members seemed to enhance the confidence of the E & T faculty members in their abilities to teach and evaluate students' communication practices.

As a technical communication specialist, I also learned about some of the standards that E & T faculty may hold for workplace communication practices. For instance, in one of the reports that we assessed, I encountered what I considered to be plagiarism: the student had cited a source but had not placed quotation marks around the considerable amount of text that he had lifted from a Web site. When I discussed my concern with the

Assessing Existing Engineering Communication Programs: Lessons Learned from a Pilot Study

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Purdue University Indianapolis

Increased calls for greater accountability and assessment of engineering communication programs have led many schools of engineering and technology to initiate methods of assessing the quality of their students' engineering communication abilities. In my institution, I have spearheaded the pilot year of such a program, and, as anticipated, have learned several valuable lessons of interest to others who are developing assessment procedures for engineering communication programs. Before I explore those lessons, I'll provide a brief background that illuminates the context of our assessment processes.

Background

Because the Accrediting Board of Engineering and Technology (ABET) has recently changed to using outcomes to measure the quality of engineering and engineering technology education programs, the Purdue School of Engineering and Technology at Indiana University/Purdue University Indianapolis (IUPUI) has described expected outcomes for its programs and programs and is developing strategies for collecting data about the quality of students' work. One area in which ABET has asked for data is whether students can communicate effectively. Because of my expertise in technical communication, I designed a pilot study at IUPUI for a program that would assess students' communication abilities well but would not demand an undue amount of participating faculty members' time.

Before I began the pilot study, several voices among the Engineering and Technology (E & T) faculty members tried to persuade me that English graduate students should be hired to assess students' communication abilities. Those who were calling on me to hire outsiders thought that I would have difficulty finding faculty to participate in designing and conducting the assessment. (One can find arguments for heterogeneous assessment teams in Hovde 1999). I believed at that time that a team with a mixture of areas of expertise would be more credible, and my experience has so far reinforced that belief.

During the pilot study year (academic year 1999-2000), we formed two teams each consisting of two faculty members from a specific discipline and one person representing technical communication. At early meetings, we discussed our understandings of the features of effective engineering workplace communication. From these discussions, we generated a rating sheet, tested the rating sheet, revised it, and used it again to assess samples of workplace-type documents and speeches collected from students in technical communication courses. After this initial assessment, we again revised the rating sheets and used them to assess samples from spring technical communication classes. (See Appendixes A and B for examples of the writing and the speaking rating sheets.)

These rating sheets were intended to provide overall rating scores for each artifact. We wanted to use that score to generate data useful for accrediting purposes. The sheets were also designed to highlight the most important features of effective communication

- What impact do our assessment methods have on our programs? Some methods are labor intensive and expensive for both the students being assessed and the program doing the assessment.
- How will demands of accountability from government and college leaders hinder *and* help the growth of our TSC programs?

Faced with financial consequences for failing to adequately assess our programs, we need to discuss how we can show our stakeholders that our graduates are proficient technical communicators. Our response to this current demand for accountability is another key piece in developing our TSC programs.

Untangling a Jigsaw Puzzle: The Place for Assessment in Program Development

Roger Munger James Madison University

Assessment has long been a topic of conversation among technical communication teachers and program coordinators. Much has been written about how we assess and respond to work students do in our classrooms. We have also discussed methods to assess programs in technical and scientific communication (TSC). In fact, CPTSC offers a comprehensive self-study and program review. The purpose of the review "is to help develop strong programs. . . not to compare or rank programs, and not to establish certification for programs or their graduates." Of course, a focus on developing strong programs rather than ranking programs is an appropriate focus for an organization such as CPTSC.

However, many state legislatures and organizations are considering linking accreditation and funding to student performance. Beginning next year, for example, the National Council for Accreditation of Teacher Education will require teacher education programs seeking accreditation to show that their graduates are capable of being effective teachers. This move toward accountability by states, college leaders, and Congress will impact the growth of TSC programs as well. Increasingly, state legislatures are holding our programs accountable for student learning. Lists of goals and objectives, syllabi, sample assignments, and reports on faculty productivity are no longer sufficient to prove that our students are learning. We need to consider (or reconsider) how assessment plans designed to *demonstrate* to people outside of academe that our graduates are effective technical communicators fit into overall program development plans.

An important question, consequently, for us to discuss is, How can we best demonstrate to our stakeholders that our graduates are fulfilling program objectives? As a former director of assessment at Rensselaer Polytechnic Institute, participant in the University of Arkansas at Little Rock's assessment program, and current assessment coordinator for James Madison University's Institute of Technical and Scientific Communication, I have had to address this question directly. As you know, there is not a simple answer. While struggling with my own institute's assessment plan, I have had to consider the following questions:

- Who should be involved in program assessment? Can we assess our own program? If people from outside the program are involved, who should they be? What role, for example, does industry and state government play?
- What should we assess? Are portfolios the best materials to assess? Should we instead measure our graduates' performance after they enter the workforce? Both?
- How should we assess our programs? What are the limitations and strengths of holistic assessment? Multiple choice tests? Surveys?

available to the program, that of continuing "as is," the composition faculty have identified two other options for dealing with a situation that, for the only technical writer on the faculty, is increasingly intolerable. First, given the shortage of resources and the reluctance to fund increases in faculty lines or course offerings, can we convince FIPSE to fund an innovative program revision, one that will rely extensively on course offerings in engineering, business, computer science, and fine arts, to create a multi-disciplinary degree? A modest venture into that territory has revealed that M.A. students are understandably hesitant to serve as "guinea pigs" in order to answer the many questions that such an approach brings to light, including the actual content of courses for which we have only brief catalog descriptions, the pedagogical approaches of their instructors, and the degree of knowledge or skill in computer science or visual design required for their students.

Our second option recognizes the presence of another state university with a technical communication M.A. program in the immediate region and asks other questions, including what criteria one might apply to determine whether a university either can or should provide a technical communication program. Operating on a felt sense that a major state institution serving 38,000 students in a large metropolitan area simply "should" offer such a program does nothing to provide the time and resources necessary to identify and recruit students in sufficient numbers to justify course offerings. Further, as a research institution, might we better serve our students by offering a doctoral concentration in, for example, rhetoric and technology?

In other words, rather than upping the voltage, should we pull the plug? Given not only the practical but the ethical considerations of promoting a program that cannot meet the realistic needs and expectations of our students, might that be the kindest cut of all?

The Greater the Resistance, the Higher the Voltage? or, How to Know When to Pull the Plug on a Technical Writing Program

Frances J. Ranney Wayne State University

In 1984, Barbara Couture of Wayne State University published a description of a "Professional Writing Project" funded by a grant from the Fund for the Improvement of Post-Secondary Education. This two-year program development process had led Couture to conclude that collaborating with industry in planning an M.A. program had better prepared students to write for the workplace and had also increased faculty research and teaching capabilities.

In 1998, when I joined Wayne State as a "technical writing" hire, my first official duty was to attend a farewell luncheon for Couture, who, after several years in University administrative posts, was leaving Wayne State. The significance of this event worried me; by now, I am convinced that the future of the technical writing M.A. is in jeopardy—and should be. Though the reasons for the decline of the program are many and varied, and might at first sight seem specific to our local context, a closer look convinces me that this lamentable turn is also intricately linked to the history of our discipline.

Throughout the 1980s, programs such as that anticipated by Couture's FIPSE project were proliferating nationally, and research into technical writing theory, pedagogy, and program design was keeping pace (Staples 158). Though by 1989 Carolyn Miller questioned the implications of university-industry collaboration in the design of programs and curricula, few if any scholars rejected the model entirely. As a discipline we continue to value the intimate connections between academic learning and workplace practice, along with the combination of humanism and technology, that inhere in technical communication (Kynell 149).

In fact, it is not industry collaboration that has caused the Wayne State program to founder. Indeed, many in the English Department might bristle at that term, believing the program is thriving. Nevertheless, contradictions within the department that reflected and repeated historical patterns have allowed the program to wither. For example, early in the twentieth century Engineering schools discovered that literature was not necessarily useful for teaching "engineering writing"; more recently we have learned that technical writing is distinct not only from literature but also from what we think of as "composition" (Kynell). But because our department never supported the creation of more than two graduate-level courses in technical communication, the curricula of M.A. students at Wayne State are filled with courses in teaching first-year writing or appreciating Shakespeare. The students themselves are filled with resentment and questions that are impossible to answer. Why do we offer only two courses? Why don't I "fix" the program?

The irony of Wayne State is that faculty with no interest in the technical writing program either encourage its continued existence and on occasion actively resist the possibility of discontinuing it. Setting aside the least desirable but most likely option

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Thoughts on Designing a Master's Certificate Program

Tracy Bridgeford, University of Nebraska at Omaha

As a new faculty member at the University of Nebraska at Omaha, I will be charged with designing and implementing a master's certificate program in Technical and Professional Communication. As far as I know right now, students in this program may include English, communications, and journalism majors. I propose that this program be grounded in the concept of *techne*—that is, productive knowledge. I hope to discuss how to go about developing a curriculum that meets this aim.

When I think about *techne*, I'm reminded of my father, who was a carpenter. As a carpenter, he knew the tools and materials associated with the building trade. But his customers went to him for more than his technical knowledge. In fact, one colleague of my dad's once described him as a "master craftsman" or a "carpenter who puts his heart into a home." In speaking of his craft, my dad used to say, "You have to listen to the story the wood is telling you and the story the customer tells you." When people came to him with a building project, Dad would talk to them for hours until he had a picture of the context in which the product was to be used, whether it was a house or a cabinet. And he never built anything the same way twice.

As productive knowledge, *techne* is both a concept and an application of knowledge at the same time, not discrete activities, and is informed by what is known with what is unknown. *Techne*, what Aristotle defined as productive knowledge, has gained increasing attention in our field. Carolyn Miller (1979 & 1989) has connected *techne* with conduct, or phronesis, (a knowing how and a knowing that); Tom Miller has connected *techne* with praxis (the ability to question and act on shared problems through language); and Bob Johnson has connected *techne* with "contingency" and "mutability." In related fields, rhetorical theorist Janet Atwill associates *techne* with the "contingencies of time." And education philosopher Carl Mitcham sees *techne* not just as an activity but as a "capacity for action."

For me, my father demonstrated a "capacity for action" that was not only a knowledge about wood and the skill of woodworking, but was a productive knowledge of making concerned with contingency, timing, and possibility. This is the same kind of *techne* I advocate as a concept for thinking about curriculum design of certificate programs. In other words, how can we encourage students to see their work as craft as opposed to mere skill? With this position, I'm not arguing for the theory-practice concept traditionally a part of our curriculum conversations. Rather, I'm arguing for a new perspective based on the productive capabilities of *techne*. Students need the same level of understanding of communication theory as their understanding of technical skills; otherwise, they create a nonproductive tension between their ability to do their work and their ability to understand their work. This might not work, but I'm confident that it has possibilities. What better rhetorical situation for a new faculty member to walk into?

asking students to apply theory and derive theories from action while working in their professions, then the questions we ask them to consider should assume that theory and action are inseparable. In other words, we should not ask theory questions without asking about action, and we should not ask practice questions without asking about theory. Although we didn't articulate this understanding during our process of revising the list, in retrospect, this was the theory that we were intuitively acting upon; only retrospectively can we see how our actions generated a theory for action. The two were—most of the time—inseparable in our own professional work of revising the reading list.

The list, which is appended and which represents this dialogic process, does, finally, represent a degree of reflective instrumentalism—although we mentioned the concept only twice after its initial introduction. We performed the instrumental task of creating a new reading list, yet creating the list required us to reflect on hard questions about the identity of our program and the identity of the student created through the program. The items on the list, reflecting the dialogue that we hoped to create between techne and praxis, between theory and application, we think, do challenge students to view the field of professional communication as more than a series of tasks and jobs—although the list does prepare students for these more pragmatic tasks. Seen through a wider lens, the dialogue represented in the reading list helps students see that professional communication tasks and jobs constitute a body of knowledge and a set of problem solving strategies; that the tasks and jobs privilege particular ways of thinking and acting at the expense of others; that the tasks and jobs have a history.

In short, the list itself teaches. And one lesson is that there is no split between praxis and techne, between reflection and instrumentalism: neither theories nor actions are independent. Theories cause us to act in certain ways; those actions cause us to theorize future action in certain ways. Knowing that each informs the other, and that both actions and theories need to be interrogated for the perspectives and values they privilege, is the goal of reflective instrumentalism—and that too, we believe, is the philosophy represented in the new MAPC reading list.

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our English Department with faculty who work in a Master's of literature program but at a university that traditionally privileges professional programs like engineering and architecture.

Our challenge, then, was defining "what do we do" in terms of the reading list in a way that acknowledges the diversity of forces—and the people representing those forces—at play in this situation. We needed a way to theorize our program that excluded neither the practical nor the theoretical, and we needed a reading list that could speak both to theory-leaning professors and to career-oriented students. Russell Durst's notion of "reflective instrumentalism," from his *Collision Course: Conflict, Negotiation and Learning in College Composition*, provided such a way—at least at the outset. Put simply, it promised to help us theorize the competing forces present in our program without over-dichotomizing them.

The theory of "reflective instrumentalism" that Durst outlines in the final chapter of *Collision Course*

> preserves the intellectual rigor and social analysis of current pedagogies without rejecting the pragmatism of . . . students. Instead, the approach accepts students' pragmatic goals, offers to help them achieve their goals, but adds a reflective dimension that, while itself useful in the work world, also helps students place their individual aspirations in the larger context necessary for critical analysis (178).

The approach seeks to establish, that is, a common respect between student and teacher of the other's goals as well as of the values that drive those goals. We wanted to create through our reading list a dialogue between student and teacher, between the theoretical and the practical. In so doing, we thought, we could promote a dialogue that problematized the very notion that there is in fact a dichotomy between the theoretical and the practical.

How to create a reading list that problematizes the dichotomy of theory versus practice? It was an ironic question, especially given that we had the theory but didn't know how to proceed with revising the list. We tried several methods. We tried to build the list around our five core courses: Visual Communication, Workplace Communication, Research Methods, Professional Communication, and Rhetoric. We tried to build the list around thirteen key subject areas we identified, including those represented by the core courses but also adding ones on, for example, technology, international communication, and literacy. We tried by breaking the thirteen areas down into six smaller ones.

In the end, we built the list through a dialogue that called upon each of us, speaking from our respective professional competencies, to recommend readings for the thirteen categories. We recorded all the items suggested for each category, and once we had built this master list, we had to pare. To do that, we began to reflect on why each reading was valuable for this program, given the competing voices that needed to be represented in the program. The discussions were frank; the negotiations on what to include and exclude were often passionate and occasionally personal.

From one of these negotiations, in fact, arose a question that would later be posed to a student taking his oral examinations that shows how the dialogues and the list resulting from them work against the theory/practice divide: "*If you had to design a website using Aristotle's rhetoric and had to design another one using Perelman's rhetoric, how would the information architecture differ, and what does that suggest about the differences and similarities between the two views of rhetoric? According to each, how do people understand information?*" The question is complicated—but so is our field—and if we're

Reflective Instrumentalism as a Possible Guide for Revising a Master's Degree Reading List

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In "What's Practical about Technical Writing," Carolyn Miller claims that "technical writing partakes of both dimensions of practical rhetoric" (14), attempting in this case to problematize the presumed split between techne and praxis that has long troubled technical communication scholars. In a recent email message, Jim Porter suggested something similar specifically of praxis, writing that "the concept is convoluted. Its purpose as a term is to question and overturn some of the conventional binaries that plague our research and thinking, particularly the thought vs. action and theory vs. practice binaries."

Like others elsewhere, the faculty at Clemson have wrestled with this same tension, particularly when faced with "larger" curricular issues like the creation of a reading list for graduate exams and the determination of how many core courses will define our MA in Professional Communication (MAPC).

A concern about the techne-praxis relationship, in fact, defined our recent revisit of the reading list for the MAPC program. As the following quotation from an email demonstrates, it's a concern that affects students as well, if not always in the same ways:

> I had two students in my office this week trying to figure out just what on earth social construction has to do with writing a memo and why they need to know Cicero to write a good proposal. "Just give me the format, Dr. Williams, and I'll write it," they say in not so many words. I think this is a huge curriculum issue, too, at the grad level because the perceived bifurcation (is that word too strong?) of the program begs the question of "fundamental" knowledge for proceeding in the program. Why aren't students required to take 490/690, "Technical Writing," but are required to take classical rhetoric? I don't mean to imply that they should be separated because I don't think they should be. However, I'm not sure that we as a faculty are clear on exactly how the areas are connected and the result is confused students and perhaps a confused faculty. We need, IMHO, to articulate in writing goals that unite the two threads in a mission statement or something like it because this type of focused attention on "What do we do?" necessarily proceeds "How do we do it?" Revising the reading list is a "How do we do it?" consideration. And, not to be too self-aware, but would defining "what do we do?" be reflective instrumentalism?

As the tensions in this quotation indicate, the MAPC program is not, of course, just an applied, professional program. All of the MAPC faculty hold Ph.D.s in Rhetoric and Composition; some of us consult in the private sector; some of us consult in education; some of us publish writing theory and literacy scholarship; some of us publish classical rhetoric scholarship; some of us develop online education materials. Likewise, we share

then adjusting it on an ongoing basis. It also requires timing, accommodating the continuously changing relation between what exists before and after and among influences developing from internal and external sources—all at any point in a program. Ultimately, then, timing is not only chronos, but also kairos, and kairos is not only timing and timeliness, but its even more powerful definition as the action producing our positive professional fortunes.

Timing is Everything: Integrating Low-Profile "Concentration" Courses into a High-Profile Master's Degree

Margaret Hundleby Auburn University

All of us working to establish, maintain, and extend programs in technical communication have ample experience of timing and its effects. This paper discusses the phenomenon of a sense of timing as a sense of timely design and of timing as active response to unfolding demands as the key elements in making any program effective and durable. Indeed, I claim that timing is everything. Auburn's extended experience developing a new, high-profile Master's degree out of beginnings as a low-profile adjunct to a deeply conservative "Great Books" English department has shown this clearly. Across the chronological stretch of a decade occupied with paying close attention to program elements, not only was effort required for time-keeping, or chronos, to establish and stabilize program elements, but a strong sense of timing, or kairos, was also needed to meet and adjust to shifts in academic, political and industrial climates in and around the program. Rather than following a model or sticking to a set design, our decade of experience in transforming a concentration program primarily serving undergraduates to a fully professional Master's degree has been a decade of improving our sense of timing.

Experience in converting predominantly undergraduate to graduate, low-profile to high-profile, and local to regional saw this sense of time develop as timing over four distinctive aspects: (1) the original design effort invoked chronological time, not only as time spent in selecting a balance of elements from the existing program to provide a basis for expansion but also as the collective historical time of the designers developing the knowledge for using public monies to expand as a regionally effective program; (2) putting the program into place invoked rhythm and balance, most obviously between and among internal and external demands, both to mediate conflict and especially to manage overlapping and time-wasting conditions by working out patterns that moved toward goals while holding steady—by continuously updating the design, re-thinking goals, and responding to positive and negative critiques; (3) maintaining the program indicated need for a specific kind of flexibility, time used to insure effectiveness in the core, not just as measured by how well it met the initial needs of students seeking professional education but also by how well it fostered continuous integration of new techniques, new questions as well as answers, new ways of delivering knowledge; (4) finally, ongoing program enrichment demands time as an agency of enhancing the character of a program in traditional and untraditional settings—extending from coping with large and small administrative changes such as enrollment increases and scheduling upheavals, through branching out of the classroom into real time work, monitoring the changing workplace for mutual benefit of industry and academy, and on to finding ways for instantiating technical communication techniques as epistemic guidelines in related disciplines.

Formulating Auburn's, or any, technical communication program shows clearly that movement and growth have to be accounted for in terms of complex change over time. Nurture of a program means time keeping, spending clock time on the core design, and

portal for technical communication programs? And how might we assess a program's readiness for partnering in the learning marketspace?

Re-visioning and Repositioning Technical Communication Programs in Digital Spaces

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As society increasingly inhabits digital spaces in addition to physical places, the environment in which technical communication programs are developed undergoes fundamental change. To a large extent, these changes occur because networked digital spaces exhibit different dynamics, dimensions, and characteristics than do physical places. For example, while physical places have three dimensions, digital spaces are unlimited in their dimensions, connections, and relationships. In such spaces, different entities such as people, agents, objects, technologies, and information relate to each other in unlimited numbers and ways. With this capacity, digital spaces allow for the nearly instant aggregation of mega-structures called portal technologies, which command the lion's share of traffic in these spaces. According to Adamic and Huberman, digital spaces thus follow what they call a "universal power law," resulting in a winner-take-all environment.

As the Nielsen/Netrating Report for Internet year 1999 shows, 1999 is the year in which this winner-take-all environment manifested itself on the Internet. According to this report, Internet users spent more time online but visited fewer sites, at first sight a seemingly trivial observation. However, a closer look reveals that, consistent with the winner-take-all nature of digital spaces, the Internet is being structured into few but large mega-portals, such as Yahoo!, leaving little Internet traffic for small individual sites. To use the familiar frontier analogy, we might say that the digital space of the Internet is moving from its initial homesteading phase into an aggregation, urbanization, or marketspace phase.

These dynamics have wide-ranging implications for technical communication programs. Most importantly, they lend new urgency to the claim that technical communicators can no longer afford to view their work as a service to those who develop and design digital spaces and technologies (Doheny-Farina). Rather, as experts in communication and technology, technical communicators need to re-vision their profession and play a responsible and active role in the design of digital spaces and technologies. However, they will live up to this responsibility only if technical communication programs reposition themselves as equal partners in the design of digital spaces in relation to other professional programs involved in their development.

Here, we argue that the dynamics of digital spaces present technical communication programs with three choices for re-positioning themselves: (1) stay at their homestead with their own individual home page; (2) pay rent for a space in someone else's learning marketspace; or (3) partner to build a learning marketspace. So far, technical communication programs have largely embraced the first choice. However, we argue that they will be left behind if they do not address the second or the third choice: partnering to build a learning marketspace. Specifically, we examine the questions, why partner to develop a learning marketspace? What are critical components of a learning marketspace

metaphor through the philosophical movement know as "deep ecology." In short, deep ecology is an environmental movement that came about as a resistance to the "shallow" or "reformist" environmental movements. As Eric Katz, Andrew Light, and David Rothenberg explain, "...shallow policies attempt to reform human activity regarding the environment without instigating a systematic change in human behavior, attitudes or institutions. Deep ecology, on the other hand, offers a normative critique of human activity and institutions, and seeks a fundamental change in the dominant worldview..." (p. ix). I will argue that the ecological stance against resistance taken by many information technology developers is akin to the shallow ecology of the environmental movement. We should, I believe, move toward a deep model that will work toward institutional and cultural change.

Second, I will point to the knowledge management model of corporate culture that is currently driving much institutional decision-making. Here I want to make two points. First, knowledge management is an arena that is ripe for the picking by technical communicators. Technical communicators have been, and will continue to be, knowledge managers. The problem for our field, however, is that we are not recognized as such. We need to become more visible here. Second, drawing upon the work of several prominent knowledge management researchers, I will make the case for a "deep" approach to knowledge management that advocates the use of interpersonal, face-to-face communication, as well as computer-mediated communication. Put another way, I will pose a model for knowledge management that uses information technology resistance in beneficial and productive ways.

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(Deeply) Resisting Arrest: Beyond the Either/Or of Information Technology in Technical and Scientific Communication Programs

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If I choose to walk or ride a bicycle to work in the morning, will I be perceived as an anti-technology Luddite because I have resisted driving my car? Probably not. In fact, I might be seen as someone who is environmentally aware and health conscious. When it comes to information technology, however, such resistance is seen quite differently.

There is a strong tendency with information technology to adopt an either/or stance toward computer-mediated ends &endash; either we adopt a new system, software upgrade, or network capability (and by doing so we "stay ahead of the curve"), or we don't adopt the new technology and we "fall behind"(thus making us appear inept or just plain stupid). There is no place for reflection or creativity in this either/or constructed world; the developers pass it on and we must adopt, adapt, or reject.

Even some of the more sensitive approaches to information technology implementation fall prey to this strong either/or impulse. For example, in their popular new book, *Information Ecologies: Using Technology With Heart*, Bonnie Nardi and Vicki O'Day propose an approach to information technology development that attempts to place what might be termed a more humane spin on the dissemination and use of new technologies in everyday, local settings. Their approach provides considerable fodder for thinking through how fully developed information technologies can be manipulated by individuals and communities to better suit their technology needs. They give us a number of compelling scenarios based upon actual cases of information technology implementation, scenarios that clearly make the case for user-oriented approaches to information technology in a variety of contexts.

They stop short, however, of seriously considering the role of resistance in information technology development. Most bluntly, they shove anyone who uses the term to the side (including, Foucault, Ellul, Winner, Postman, Stoll and others) and even go so far as to use the Star Trek cliché "Resistance is Futile!" to suggest that the act of resistance is ultimately a waste of time and effort (pp. 46-47). In short, they advocate an, "Ok, it's there, now figure out how to live with it" attitude toward information technology implementation. This attitude makes me feel like I am a political prisoner under house arrest: if I disagree with the IT policies, then I will be muzzled.

As someone who administers an academic department that is constantly reviewing information technology upgrades, it makes me nervous to think that we cannot resist the implementation of new information technologies. That is, I want to be able to make decisions that are not already made for me: decisions determined by technological imperatives that might not make sense in my institutional context.

In my presentation, I will advance two approaches for thinking through how information technology resistance can be beneficial (and possible). First, I will discuss "deep ecology." As Nardi and O'Day's book attests, the idea of information ecology has become a strong metaphor in computer-mediated circles. I propose to probe the ecology

2. Technical communication students may require something very different from contemporary forms of first-year composition.

Writing is a subordinate skill rather than a fundamental one in this new form of technical communication. Instead of assuming students begin their college careers by learning to write academic (or even workplace) prose, why not assume they need to learn how to *research*, how to design, how to observe and interact with users, how to design effective tests of usability? For years, many of us have been struggling to move out of the domination of English departments by aligning ourselves with rhetoric and composition. Perhaps we're headed in the wrong direction—rhet/comp, because it continues to study the production of text, may serve only to continue the subordination of technical communication to literature. Instead, why not begin with a completely separate foundation for our curriculum?

3. Technical communication programs may belong in areas outside of English and even rhet/comp.

The corollary to the idea that first-year composition is a poor foundation for technical communication is the notion that technical communication belongs outside of English or rhet/comp. This is, of course, not a new idea—some of the best tech comm programs are in departments other than English; I'm merely saying we need to make this situation the norm rather than the exception. In addition, we need to be careful in our alliances: we don't want to just trade on situation of subordination for another, with tech comm being subordinate to computer science or engineering or management.

4. Technical communication is about the production of space and the facilitation of movement within space.

Finally, if we think technical communication students and practitioners are no longer producing written texts, then what are they producing? Increasingly, of course, they're producing web sites, multimedia installations, online help, e-mail, and more. But what I'm after here isn't merely the idea that tech comm is about multiple media, but the idea that technical communication is about the construction of space rather than isolated artifacts. Briefly, if we think in these terms, we'll find that they provide better support for many of the things we've been trying to teach for years. Usability, for example, is no longer about the interaction of active user with separate artifact, but a contextualized issue of interactive movement, involving not merely a single user and an isolated document but potentially many users over time, simultaneously and successively. The most interesting usability studies of the last twenty years are those that have suddenly realized—perhaps without saying it—that documents exist in social contexts. Barbara Mirel's research on users of custom documentation in offices, for example, discovered that the usability problems were more related to power than to text.

As long as we continue to think of technical communication documents as discrete texts, we'll continue to think in limited ways about usability, product design, and communication in general. A post-text model for technical communication can provide us with some important, sweeping shifts in the ways and places that we construct technical communication programs.

Writing at the End of Text: Rethinking Production in Technical Communication

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Technical communication, as a discipline and as a practice, has always held an odd relationship to writing. We practice a subordinated form of writing, one step or more removed from those our cultures value most highly. We are not, admittedly, authors in the sense in which Foucault once defined the term. The writing that technical communicators do is of a different status than that of authors. Although we could say that manuals and instructions and online help are extremely important, that they are the fuel that increasingly powers our economy, we must begrudgingly admit that our texts do not receive the esteem given to literature.

But we might, instead, arrange the issue differently: what if technical communication rejects writing? Not merely in the sense that "communication" is about multiple media, but in the more fundamental sense that-technical communication is about a different order of production, more like the database than the essay.

Rephrasing the question of value this way presents a different set of approaches to technical communication curricula, among other things, allowing us to take new perspectives on a set of issues that have haunted our field from the beginning.

1. Technical communication is not about the production of original text.

As numerous people have remarked, technical communicators traditionally hold lower status positions than programmers or engineers, partially because technical communication is seen as mere "translation." A similar status problem occurs in English departments, which hold literary authorship in higher esteem than the writing of procedures.

But over the last twenty years, society has begun to shift toward an economic model that values articulation or symbolic-analytic work more than original authorship. Technical communicators in this model are responsible for selecting, rearranging, and filtering information rather than simply producing it, a transition into a postmodernist model of communication. As long as we allow ourselves to be chained to the "production" model, we'll suffer in comparison to authors and programmers—the texts we produce are consistently subordinated to the "texts" of hardware and software. We should, instead, aggressively promote an articulation model, one that explicitly declares the value of technical communication in terms of the connection, arrangement, and filtering of pre-existing bits of information. This would provide the opportunity for positioning technical communication above technologies, coordinating them and orchestrating uses.

"technology versus humanities" before our first program graduates complete their degrees.

As faculty and administrators responsible for program implementation continue to explain to each other how engineers, computer programmers, business managers, and technical communicators view the world, I hope that a new and genuinely collaborative, interdisciplinary program will emerge. The resulting opportunities for students will—I hope—be worth the trouble.

One Department for All? Revising a Technical Communication Program through Interdisciplinary Collaboration

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In September 2000, Cincinnati State's associate degree program in Technical Writing & Editing (TWE)—a program that operated continuously and successfully for 15 years—ceased to exist, and a new associate degree program in Technical Communication (TC) commenced. The changes embodied in this transition are more than a slight revision of nomenclature. Although it's too soon to know for sure, the changes might turn out to be a revision of an entire academic culture.

The old TWE program was born in the English Department and *belonged to* the Humanities Division. The new TC program is part of a brand-new Information Technologies Division, and is one of four associate degree programs located in a new department of Multimedia Information Design, which includes Web Design, Computer Graphics, and Audio-Video Production, along with Technical Communication. The development and implementation team for the new department includes numerous faculty members and administrators formerly affiliated with Business Computer Science and Engineering Technologies programs (as well as the lone Humanities-based technical communicator). The revision process included a CPTSC program review, and other structured curriculum review processes that involved diverse representatives of local business and industry as well as other academics.

When the technical communication review panel was asked to recommend whether the new TC program should be housed in Humanities or Information Technologies, the group split down the middle. Those who favored the IT location said it would add "technical credibility" to graduates' credentials and would increase their employment options. Those who favored the Humanities location echoed the often-voiced frustration of professional technical communicators (and technical communication academics) who see themselves perceived as secondary or peripheral to the "real" (i.e., technology-centered) work of an IT or engineering organization.

The IT path prevailed, mostly for pragmatic political reasons. Subsequently, every effort has been made to keep the unique perspectives of technical communication at the forefront of curriculum development. For instance, students in all of the new MID programs will complete required courses in visual literacy and usability assessment early in their academic programs. Almost all of these students will study and practice professional writing and editing at the same time that they gain first-hand experience using technology tools associated with their selected specialty areas. All of the degree programs are based on a technical communication "core," with varying technical "minors" available to students. At least that's how the tech communicator sees it—but not necessarily how my colleagues from business and engineering view our programs.

The merging of disparate academic cultures and perspectives has had many predictable rough spots in our year of planning, and I anticipate many additional, vigorous conversations about "programming versus audience assessment" and

The 21-Course Undergraduate Program: Strength Through Diversification

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How can diversification strengthen a professional communication program? By capitalizing on faculty backgrounds, a broad variety of courses, and student experience. Here's how that combination of factors works in the 21-course undergraduate major in professional writing at the University of Houston-Downtown.

First, the faculty possess broadly diversified academic and industry experience and a willingness to learn new subject matter and new software. Because of those characteristics, we are able to staff courses as different as medical and science writing, business and technical writing, desktop publishing, and feature writing for business and industry. The permanent faculty teach most of the courses. Documents and manuals and legal writing are typically taught by adjuncts employed in industry. Several of the full-time faculty maintain close ties with industry and use those ties and their own backgrounds to bring irreplaceable insights into the classroom. Students benefit directly and indirectly from this diversification: a better understanding of the demands of the workplace, personal access to subject matter experts, and enviable contacts for internships and jobs. The program itself benefits because industry is kept aware of its existence.

Second, we offer our required courses regularly and rotate the electives. Because faculty teach three to four courses per semester, we are able to provide a diversified schedule for students. In a typical semester we offer the required courses: basic and advanced technical and business writing, editing, basic and advanced desktop publishing, and field experience (internship). In a typical semester, we also offer several electives. In Fall 2000, for example, the electives are environmental writing, newsletters, writing for presentation, publications workshop, proposal writing, legal writing, and advanced grammar. We schedule courses during the day, as well as at night and on Saturdays, in order to accommodate full-time students and working students.

Third, we attract an adventuresome, non-traditional student body. The students' diversified backgrounds add strength to the undergraduate program. Consider how rich a classroom experience can be when students presently or formerly hail from the medical and legal communities, software and engineering companies, city government and the police force, and the aerospace and oil industries. Their varied interests find a home in the coursework. Traditional students, too, add diversification because of their many career goals and sometimes because of their lack of clear goals. With so many courses to choose from, students get a taste of the kinds of writing required in a number of arenas. This taste enables them to choose wisely a career direction that they like and in which their writing is strongest. They then select internships in the career field they've decided on.

On our campus, we have discovered that diversification means strength.

The Value of Seeking Interdisciplinary Models for Smaller Professional Writing Programs

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Technical communication strains disciplinary boundaries, which can make program development difficult. In a time when we are experiencing what Richard Lanham calls "a complete renegotiation of the alphabet/icon ratio upon which print-based thought is built," no traditional departmental home (e.g., English) seems appropriate. One look at the classified section of the Society for Technical Communication Web site suggests that a technical communication student should graduate with competence in information technology and visual rhetoric (among other possibilities) as well as writing. For many of us, however, those competencies fall outside the disciplinary boundaries as defined at our local institutions, and, in fact, we may face penalties for developing such competencies. As a member of a department of English and linguistics, for example, my department has no way to reward me for learning CGI scripting or FrameMaker.

One obvious answer to this dilemma is to redefine departmental boundaries, but that is not always feasible. Although a few admirable examples of this approach exist, budgetary and political constraints make such a development unlikely for many of us. At my school, for example, any new program must be approved by a state-appointed panel that wants to prune rather than add programs. Moreover, my school lacks the personnel to develop such a department, and those who care lack the clout to push successfully for the hiring that would need to be done to staff it.

Consequently, responses to questions such as, What models of development, or model programs, might aid us as programs expand or consolidate or both? depend, obviously, on a variety of institutional factors. For some institutions with the personnel and resources, a new departmental home may be an answer. For other institutions, however, such change is unlikely. This is so in my case. Therefore, I am looking at interdisciplinary programs on my own campus that have successfully crossed disciplinary boundaries. Programs in folklore and women's studies, for example, are supported by faculty with various departmental affiliations, among them anthropology, English, psychology, and sociology. Who is to say that a technical communication program could not be supported similarly by a variety of faculty, among them computer scientists, technical writers, and graphic designers?

What I am suggesting is an interdisciplinary model that sits outside the departmental structures of my campus. Such a model offers flexibility as well as the ability to draw on the competencies of numerous departments. For the short term, such a model would allow students to graduate from one of a number of programs offered by different departments (e.g., English, graphic design, computer science, or organizational communication) while also being recognized for completing interdisciplinary coursework leading to the competencies required for technical communication. This may not be a perfect solution, but it could be a pragmatic first step toward more amenable long-term goals.

programs and courses becomes vital. As a field, we should explore ways to create such integrated programs—along with ways to overcome the institutional barriers and any other obstacles that may stand in their way.

The Case for an Integrated Approach to Program Development

Ann M. Blakeslee Eastern Michigan University

In the last few years, both scholars and practitioners have considered the place of technical communication in relation to new information technologies and the contributions the field can make to the development and dissemination of electronic information. Most in the field agree that technical communicators bring a broad base of expertise, along with the ability to make a wide range of contributions to this realm. However, technical communicators still question the impact they might have and the roles and functions they might adopt in this area. In addition, they are still often plagued by an identity crisis brought on by a lack of recognition from other fields.

Such concerns and questions give rise to other questions, including the question of how we can best design technical communication programs. While there are any number of models for effective program development, there is now probably a greater need than ever to consider a highly integrated and interdisciplinary structure for our programs. Such a structure, which should also be flexible, can enable students to take courses in any of the areas relevant to information technology (e.g., programming, human computer interaction, document design, web development, rhetoric.) In addition, such a structure should also be highly integrated so that students in these areas can work together on projects, with each contributing expertise from their respective fields. In short, we should develop programs in which students not only take classes in other relevant fields, but in which they are also expected to collaborate with one another and to apply their expertise from their own fields to the problems they are asked to solve in these collaborations.

In other words, the classes that these students take in related disciplines need to both acknowledge and draw on the students' expertise and situatedness in their own fields. In this way, students can learn the subject matter of other fields, while also developing an identity and stance in relation to those fields. They can also discover the contributions they can make to the problems of other fields, and they can learn to collaborate effectively with their peers from these fields. They may even devise models and strategies for optimizing such cross-disciplinary collaborations—ideal scenarios that they can carry with them when they embark on their careers.

The program structure I envision is thus both interdisciplinary and also highly integrated. It is also self-serving. By encouraging and supporting interdisciplinary collaborations where every student brings his or her expertise, we may also make progress toward helping the professionals in these other fields see the many contributions technical communicators can make in the realm of information technology. In other words, such program structures may serve the additional purpose of helping to enhance the identities and reputations of technical communicators.

Further, such integrated program structures support current trends in the field. In particular, as technical information and documentation are increasingly integrated with technology (e.g., the incorporation of technical information and instructions into software and Web interfaces), the need for reinforcing and supporting this integration in our

We are working to develop joint programs with other departments. We have, for example, developed a joint master's program with the Design Department, in which half of the students are admitted through Design and half through English. All take courses in both departments and over two years complete a Master of Design in Communication Planning and Information Design. We're also working with our science college to develop programs with our technical writing degree that also serve the needs of students interested in scientific and medical communication.

Another approach is to participate in two existing interdisciplinary programs: the Bachelor of Humanities and Arts, which involves our college and the College of Fine Arts and allows students to be jointly admitted to English and Design, and the Scholars in Humanities and Sciences, which involves us and the Mellon College of Science, and allows students to be admitted jointly to English and Biology, for example. We've also worked to develop stronger ties to existing minors and concentrations associated with technical and professional writing. These include a Communication Design concentration within our college's Information Systems degree and a minor in Multimedia Production designed for liberal arts students. Yet another approach is to develop courses that have appeal across departments. These courses allow us to attract students from other departments and also barter for space for our students in courses offered by other units. A prime example is our current course in Online Information Design, which appeals to students in Human Computer Interaction, Information Systems, and Design, among others. A variation on this approach is to trade courses and expertise with other departments. For example, we offer a writing-intensive course in Language and Design for undergraduate design students in exchange for the Design Department is devoting a section of its popular course on Communication Design Fundamentals to our MA students. Finally, we seek to offer distinctive courses and promote their distinctiveness. To put it more directly, we actively engage in marketing. For example, a course that we once thought of simply as Desktop Publishing has evolved into a much more sophisticated and distinctive course titled Document Design. Unlike similar offerings that focus on graphic design fundamentals, this course provides multiple perspectives on ways of integrating visual and verbal elements from the perspective of perceived meaning.

This overview gives you a sense of the questions we are struggling with and the approaches we have tried to date. We are interested in hearing from others about similar challenges and solutions.

faculty or part-time adjuncts in at least some of these courses. Thus, we're working to position ourselves in relation to this issue but haven't found a solid solution yet.

The situation we face has prompted us to reflect on a couple of critical questions. First, what exactly do we consider to be our primary expertise? What do we offer that other CMU units can't and don't? Our answer here has been that we understand readers and reading, that we're experts at discourse analysis and close reading of texts, and that we specialize in understanding the links between texts and culture. Even the Psychology Department, which at CMU has a strong focus and national reputation in cognitive psychology, cannot claim expertise in textual understanding and interpretation, so we have a definite edge here. Also, we see writing (and the analytic and production processes associated with writing) as foundational to all of the new areas, including information design. This is a position that I'm aware has become a bit controversial, but we think it is important to give central significance to writing, that is, to developing meaning and meaningful relationships in texts. This is obvious but fundamental and something we need to consciously promote. Unfortunately, it is also something that tends to get lost in efforts to appeal to students' interest in technology, particularly with regard to the World Wide Web.

In our case, an emphasis on our strategic advantage is important because we live in an environment of experts who will challenge us at every step if we claim to know more than they do in their areas of expertise, for example, computer programming, psychological research, or principles of design. We also live in an environment that strongly promotes strategic or comparative advantage. As Richard Young and Erwin Steinberg pointed out in the Spring 2000 issue of *Rhetoric Review* devoted to graduate programs in rhetoric, CMU long ago decided to bypass the traditional *Great Models* approach, in which schools emulate the existing benchmark programs. Under this approach, a department would, for example, try to develop a literature program to rival Yale's. CMU chose instead to follow a *comparative advantage*, or *Local Program Strategy*, which is in large part how CMU ended up with programs in computer science, robotics, cognitive psychology (with little work in social or clinical psychology), social history, rhetoric, and literary and cultural theory. In fact, that's how CMU got into the business of technical and professional writing quite a few years back when Erwin Steinberg, then the Dean of the Margaret Morrison Carnegie College for Women, decided that his *girls*, as he referred to them then, would benefit from capitalizing on the presence of strong engineering departments by focusing on technical writing in relation to those programs. The approach is not new, but it is still strategically important.

Finally we live in an environment, specifically the English Department, that includes programs in literary and cultural theory, creative writing, and rhetoric as well as technical writing and professional writing. The three programs have their differences, but what we share is a strong interest in text and textual meaning, and our identification with texts is an important component in maintaining a coherent face to our college and university.

The second question we've had to address is how we can work with other programs to leverage our mutual strengths rather than becoming involved in destructive internal competition or being overtaken by them? This is much harder because it involves both competition, especially for resources, and cooperation. However, here are some of the things we're trying that involve all levels of university programming.

How and Why Our Institutional "Home" Matters: Strategic Program Planning in a Specific Setting

Karen R. Schnakenberg Carnegie Mellon University

Since I reported to the CPTSC meeting last October about the major revisions we at Carnegie Mellon University have recently made in our undergraduate B.S. in Technical Writing (TW) degree, we've done some further thinking about how our writing degrees mesh (and compete and conflict) with related programs now being offered by various other units at CMU. The answers we're finding turn out to be fairly complex.

For example, the recent changes to our TW degree have been directly responsive to rapid changes in the field of technical communication, in evolving technologies, and in the importance of information systems and Web-related writing and design for technical communicators. At the same time, it is clearly the case that an equally strong influence has been the internal pressures we feel as we find ourselves competing with other departments at CMU for students who had once been a kind of private preserve.

This pressure involves more than competition for students and resources. An equally important value at stake is our perceived status and role within our department and our university. Until a few years ago, we were the only department focusing on the conjunction of communication and technology. We now compete directly with undergraduate programs in all of the following areas:

- Information Systems (this major currently accounts for almost one third of all students in our home college, the College of Humanities and Social Sciences)
- Human Computer Interaction
- Communication Planning & Design
- Multimedia Design
- Engineering and Public Policy.

One response we have made has been to increase our competitiveness by updating our programs and courses and by requiring courses in computer programming and information design for both print and online media. That's important, but really only one answer. In the end, we know that the other programs are not going to go away and it just doesn't make sense for a host of departments to offer similar competing courses. This is true in a number of cases but particularly so when all departments find these kinds of courses difficult, at best, to staff. As most of us have learned in our efforts to hire and keep faculty over the last couple of years, the strongest potential candidates in these areas are eagerly sought (and well compensated) by the private sector.

There's an additional and not insignificant issue here: the question of tenure vs. non-tenure staffing. We see other programs at our university that have strong technology demands increasingly depending on non-tenure line faculty. We've tried to avoid this situation as a long-term solution, but we also understand that there are often valid reasons, both institutionally and educationally, for using either non-tenure track full-time

locating the program inside a different sector of the college or university. The effects of academic location can work positively towards enhancing the program.

Directing Growth and Growing Directors: Developing Leaders for Technical Communication Programs

Craig Hansen Metropolitan State University

Designing and directing technical communication programs require special skills. Clearly, faculty taking on these roles must be well versed in the scholarship of the discipline. But they face additional challenges not often faced by other department chairs or program directors, especially those in liberal arts disciplines. Here's a brief overview of some of these challenges.

Dealing with many masters. Technical communication programs have many stakeholders. These include the students (looking for a marketable profession), potential employers (looking for new employees that have very specific profiles), faculty (looking to develop critical thinkers), other technical or professional programs (looking for supporting programs), university administration (looking for a winner), and professional associations (looking for a lot of things). In other words, program directors must operate within a challenging mix of priorities and value systems.

Developing and maintaining technical facilities. It's fair to say that all technical communication programs need access to the best computer facilities possible: for teaching, for research, for professional development. Creating and maintaining these facilities—or developing some other kind of access—can be a major burden on program directors.

Finding and keeping industry partners. Industry partners mean jobs for graduates, internships, advisory board members, good public relations (both within and without the university), and possible external funding. But finding, developing, and maintaining these relationships is time consuming and sometimes intimidating, and it's another task that often falls to program directors.

Keeping the curriculum relevant. While certain core courses retain some consistency over time, technical communication programs may require frequent curricular review and updating to keep programs relevant to a rapidly changing profession. And the many different stakeholders have many different ideas about what this means. All technical communication faculty should be involved in this process, but program directors must provide the leadership and overcome the inertia of keeping things the same.

Managing rapid growth. A growing program is a good thing, but growth can be a significant challenge (a common one recently in technical communication) as resources frequently lag behind the need for them. This affects program quality in general, and, in specific, faculty workloads, facilities, and even clerical support. It can be a significant problem for program directors.

Many of the challenges above are faced by department chairs and program directors in the sciences, in engineering, and in business disciplines. However, these challenges are particularly difficult for technical communication programs for at least two factors.

- As a newer phenomenon, technical communication programs are frequently nested within other departments (or generally slotted in other incompatible or

even nonsensical places). As a result, they may not get the visibility or support they require (and may even earn resentment with their success).

- Technical communication is itself an emerging field. For example, conflicts develop because it is a professionally oriented discipline with strong and deep liberal arts roots. Critical thinking, historical perspectives, social and ethical responsibility, and the embracing of diversity are issues of real significance in many technical communication programs. These are often not shared to the same extent in other professionally oriented programs and may require new thinking by university administration and external audiences.

To help leaders and developers of technical communication programs achieve success (and retain sanity), I have a few suggestions:

- Offer professional development opportunities so that potential leaders can develop the needed skills. CPTSC would be an ideal place for this kind of initiative.
- Create a network of program directors to provide advice, support, and perspective. The focus here would be program administration.
- Strategize and then work to educate university administrators about the challenges faced by new and existing technical communication programs. A professional association, like ATTW or CPTSC, could help in this effort.

Why Do Students Entering a Major in Technical Communication Resist the Introductory Course?

Dale L. Sullivan Michigan Technological University

I have been teaching HU2600: Introduction to Technical and Scientific Communication, a course in which students are introduced to the major and the profession, for the last three years. Students have resisted this course during, and previous teachers report that the resistance preceded my taking over the course.

I believe that students' resistance is tied, first, to the nature of technical communication education. Using C. S. Lewis's definitions, I point out that teaching the technical communication curriculum is not technically the same thing as educating the student, nor is it equivalent to offering students the chance to pursue "learning" for its own sake. Rather, it is training aimed at producing a specialist. As such, the technical communication curriculum is what Lewis calls a composite curriculum chosen for the student by those who understand the profession better than they do. Add to this definition Jacques Ellul's claim that education in the technological society attempts to make people happy doing things they would normally not choose to do (348), and we arrive at an accurate, though unflattering, description of the project of "educating" majors in technical communication.

The second source of student resistance is the condition of students entering the major. At Michigan Technological University, many are transfers from other majors, so they feel like failures. Although this condition may explain a lot about our majors, there are other, more universal conditions that contribute as well. First, few are familiar with the profession, and they have no role models, so they are entering the unknown. Second, they have developed expectations not based on knowledge of the field but on what they are good at or on what they want to do. These expectations often do not fit the reality of the job market. Third, even when they overcome these two conditions, many find themselves wrestling with the problems of status in the profession and have a hard time imagining themselves in the role with the status that professional technical communicators have.

Given this understanding of student resistance, I have tried two approaches to teaching the class. One approach has been to focus primarily, though not exclusively, on introducing students to the kinds of work they will be doing. I do this by giving them several projects and then talking about how the projects reflect real world conditions. I think of this approach as the beginning of their "training." The other approach is a reflective approach. When I teach the class this way, we discuss the history of technical communication, we study the social and professional roles of technical communicators, and we explore philosophical questions about the role of technical communicators in the technological society. The first approach has the advantage of getting students started on building their skills and portfolio; the second challenges their expectations but teaches them to question the profession and their own desires and values. Neither has been received without resistance.

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Creating Communication Modules for an Engineering Enterprise Initiative: Programmatic and Rhetorical Considerations

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The Engineering Enterprise initiative at Michigan Technological University, described as a "multi-year, multi-disciplinary engineering experience," which "represents a systemic change in engineering education," involves the establishing of student groups to solve design problems presented by, and partially funded by, actual corporate organizations. A major part of this initiative is strong business and communication components to be delivered through a series of instructional modules. The communication program in chemical engineering at Michigan Tech was specifically asked to propose multiple communication modules for this initiative.

Although proposing modules represented an exciting opportunity to become involved with a major engineering education initiative, it also presented some difficulties, both pedagogical as well as practical. These difficulties stem from the ABET-driven component model of communication instruction, in which such courses are seen as add-ons to disciplinary instruction and a disconnect between the practices of the enterprise modules and those of our own chemical engineering communication program.

One difficulty with creating instructional modules for this initiative was that the enterprises are so varied. For instance, one involves designing and building a quiet, low-emission snowmobile, another involves finding a less expensive means of hauling mine rock; yet another involves developing "an engineering test-bed to advance digital wireless communications technology." There are currently 11 such enterprises in the initiative, each with a widely varying mission, united only in that they are considered to be solving design problems.

This wide variation of activities leads to interesting questions of how a communication program can address the differing missions, and differing rhetorical demands, of each of the enterprises. What appears at first to be a shared engineering experience for students is, in fact, a collection of very different experiences with different audiences, missions, and projects. This situation is unlike the chemical engineering communication program with its well-established assignments and specific disciplinary knowledge. If the university comes to value a modular approach to communication instruction, our involvement in the initiative could undermine not only our own pedagogical practices but the existence of the chemical engineering communication program itself, as the program has minimal permanent staffing, is funded with discretionary monies, and has high contact hours. Developing and implementing truly useful communication modules for the initiative provides exciting opportunities to gain new multi-disciplinary knowledge but is also likely to consume far more time than we have.

Our discussion considered the ways in which we conceptualized the initiative's communication component, alternate ways in which it could be conceptualized, and our efforts to maintain pedagogical and programmatic integrity while addressing the very

practical needs of this ABET-driven curricula change. We feel that these questions must be addressed if we are to truly participate in a systemic change in engineering education and its integral communication challenges.

Usability Testing and User-Centered Design in Technical Communication Programs: Current and Emergent Models

Karla Saari Kitalong University of Central Florida

In recent years, technical communication programs have begun to introduce students to the principles of usability testing. A natural outgrowth of the traditional technical communication emphasis on audience analysis and user advocacy, usability testing also serves as an interesting and potentially lucrative career path for some technical communicators and introduces a fascinating research trajectory for students and faculty alike. It's no surprise that technical programs are incorporating usability testing instruction in one of two ways:

- Some offer separate courses in usability testing at the undergraduate or graduate level. Specialized labs and corporate collaborations are often associated with such curriculum designs.
- Most incorporate usability into specific courses in a "usability across the curriculum" model. Typically, existing computer labs double as usability testing facilities.

These efforts are admirable, but leading scholars and practitioners agree that usability testing alone, because it occurs late in the product development cycle, no longer suffices (Cooper et al.). A gradual movement toward continuous user involvement at all stages of product development is underway.

At the University of Central Florida, we're beginning to teach user-centered design to the students enrolled in an interdisciplinary digital media bachelor's degree program. The approach will be tested first in the digital media senior project course, where, based on early, informal evaluations of the process of integrating user-centered design into the curriculum, it appears that digital media students and their target audience members will benefit from learning several techniques. By paying early and sustained attention to the needs, assumptions, and habits of their target audience members, digital media students will

- Develop more marketable projects that remain highly creative and innovative.
- Learn not only traditional quantitative usability inspection methods, but also a variety of qualitative methods such as focused interviewing and contextual inquiry that are designed to draw out local practices and concerns (Mayhew).
- Distinguish a product's essential attributes from so-called "edge criteria" (Norman) that add complexity at the expense of meeting users' basic needs.
- Engage in on-going critical reflection as an integral part of their development process.

Although technical communication programs differ from our digital media bachelor's degree in significant ways, there are courses and strands within technical communication programs, including multi-media development, computer-based training, and document design, into which user-centered design methodologies can readily be incorporated Several pedagogical techniques have been developed for the digital media degree but readily can be adapted to technical communication curricula. Digital media students will

- Consult with actual and potential end users through focused interviews.
- Learn about the local conditions under which products are used through contextual inquiry.
- Write a brief set of end-user instructions before project development begins and revisit these instructions in collaboration with users at frequent intervals during the project development process.
- Create a mock-up of the project and role-play—on site—how the end product might operate.

Once these methods have been refined and incorporated into UCF's digital media program, I expect that our technical communication curriculum will evolve to include these issues as well.

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A Proposal for the Marriage of Technical Communication and WAC/WID

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Traditionally, Writing Across the Curriculum/Writing In the Disciplines have focused almost exclusively on preparing students to write in an academic environment in general and within their major disciplines in particular. Technical communication programs, on the other hand, focus almost entirely on preparing students to write for the world of work. A common concern among students, some professors, and many business people is the lack of professional writing preparation that students receive within the university curriculum unless these students take courses in our programs. Even WAC/WID administrators are quick to note the need to find ways to integrate professional writing into some writing intensive courses. This presentation examined ways in which technical communication programs can revitalize writing-across-the-curriculum and writing-in-the-disciplines programs to the advantage of all concerned by working with WAC/WID administrators to design communication programs that integrate technical/professional into the curriculum at the senior level. Thus, technical communication programs can become the bridges that prepare students to enter the world of work with writing skills that are the focus of our programs.

Benefits of this union include:

- Looking at general education curricula.
- Infusing new vitality in WAC/WID and in general education.
- Bringing a technical communication perspective to university-wide writing programs.
- Increasing university value of technical communication programs.
- Adding professional perspective for students and professors.

Here Comes That Song Again: The Theory and Practice Blues

Nancy Allen Eastern Michigan University

In this paper I discuss an issue that arose as the result of an email discussion list message. In the message, the writer said that, in spite of what we might like to think, recruiters who look are résumés are only interested in very specific items. They aren't looking for an applicant's understanding of rhetorical principles or stock of strategies for approaching various issues of document preparation. According to this message, recruiters are looking for the following particular items:

- Experience
- Skill with particular tools
- More experience
- The job objective

A former student forwarded the message to me, and a discussion ensued about whether our courses should be focusing on theory or practice. To put the issue in more practical terms for technical communication, the discussion concerned whether our courses should be focusing on strategies or tools.

We sometimes think we have resolved this question. We offer justifications such as

1) no actual split; theory and practice reinforce and reinitialize one another.
2) theoretical strategies bridge time periods; tools are temporary.

Yet the argument continues to occur in various ways: at budget meetings, on discussion lists, and below the surface. Should we give slight attention to theoretical concepts and instead focus our energies and limited resources on particular tools?

Our students constantly bring us back to the importance—from their perspective the overriding importance—of tools. As they see it, knowing theoretical principles and strategies is nice, but they won't be able to demonstrate their knowledge unless they can get that first job, and all the ads ask for _____. (You can fill in the blank with whichever tool name that the résumé scanning programs are looking for in your area, RoboHelp is in demand in our area.) Although I would like to think that we don't need to continue to wrestle with this issue, it keeps coming back.

Like many of us teaching in technical communication programs, I try to give my students both strategies and tools, but I confess that I stress the importance of portable strategies over specific tools. Such a commitment sometimes makes me feel rather lonely, and sometimes I even worry that I may be negligent. Part of our responsibility as teachers, after all, is to help our students become employed professional communicators.

To get first-hand opinions from those in the front lines, that is from those who are reading the ads and looking for positions, I asked my students to tell me how they felt about theory and practice (strategies and tools) in their classes. The following comments are some of their responses:

1. "I would have to say that skills and tools that are in current demand should be taught at the college level. What good are the same strategies and concepts being taught year after year if students are not able to transfer those concepts into skills necessary for employment?"

2. "I would favor a combined approach, because my goals in taking classes are to both acquire the strategies and concepts as well as gain some experience with specific skills and tools. If the balance swings too far in either direction, the class begins to feel less helpful to me."

3. "It seems as though both would be pretty beneficial, but I think I would have to vote for skills and tools (software) because the software is probably my biggest weakness."

4. "I think that a mixture of both strategies and concepts and skills and tools is the best thing to teach, but I think that specific classes need to be devoted to each.... Most of the courses should focus on strategies and concepts that will be used for years to come. Others should be designed to focus on skills and tools. That is what I would find most useful."

5. [He or she] "could learn the necessary tools if given a chance. What bothers me is that tools could become a barrier to skilled communicators ever getting that first chance if employers need someone right now who can 'hit the ground running.'"

6. "Technical writing and business in general are all about production.... [For me] the application of theory led to practical learning and experience. This applies to working with others and understanding diversity, as well as an appreciation for planning, execution and analysis—a process for dealing with most any situation.... Specific programs will change and technologies will evolve, and those are important considerations for the future, but the only way to be able to progress with the changes is to understand the current standards."

7. "I would like to learn strategies and concepts while learning to use specific software.... I would like to see a little more hands-on with software."

8. "Software tools change with the winds and classes are (usually) available at nominal charge at places such as [community colleges]. Strategies and concepts, along with the truly bedrock tools, are the province of the University, in my opinion. Teach a man to fish, as the saying goes."

We care about our students' needs and their placement after graduating. We also care about their perceptions of our programs. I believe that most of today's technical communication programs prepare their students well, and I know that our own program has a good record of job placement, but the students' comments above indicate that they may not believe we're doing as well as we could be.

The students' comments may reflect a real problem concerning the preparation we offer in our programs or the comments may be evidence of a problem with our students'

perceptions. In either case, the conflict is a problem, and I expect it's more widespread than we may like to think. The stress reflected in their comments raises questions concerning how our programs might attempt to resolve it:

- Can we do a satisfactory job with both theoretical understanding and tool training in an already overcrowded curriculum?
- Do we do a little of each and hope for the best?
- Is it possible to encourage employers to take the longer view?
- Do real world projects in our classes and experience in internships and co-op positions fill the gap?
- How can we be sure that everyone concerned with our programs — students, teachers and administrators — understand our position in terms of teaching both theory and practice and our reasons for that position?

I'm looking for information on how our programs can serve both theory and practice adequately. The former student, now employed, who originally raised the issue in our discussion had the following suggestions:

- "Have students research what typical companies use on the job and what technologies they document so that they're knowledgeable about the industry.
- "Students should at least know what HTML is, what Linux is, what C++ is, etc., even if they cannot write it or use it yet, they can try to be conversant with what those things are and what they're used for.
- "They might find out that they are more excited by one technology than another and can pursue a line of work they like, rather than just go with whoever will give them a chance.
- "Programs can prepare them for the fact that a lot of job postings list specific tools as requirements of the job, which can be discouraging. Those tools, however, are NOT always a barrier to getting the job. You can sell yourself based on other skills as well. People skills, work experience, and activities that show initiative and leadership are extremely valuable. When I was hired at [X], I had zero years of experience as a technical writer, and yet they extended me an offer. I was told it was because my résumé showed that I had a variety of skills that they needed, like managing people, projects, and processes.
- "Students should be careful how they behave in school when they're working on group projects and shouldn't ever, ever think, 'Well, I'll never see them again, so who cares.' I can think of some classmates who really let me down and others who had terrific, sunny attitudes no matter how bad the pressure was getting. Guess who I'd stick up for in an interview."

This technical communicator's ideas contain some good advice. The comments indicate that with some tools (whatever's catching the résumé scanners) and a lot of understanding, our students should do well. Maybe we should also remind them that they'll be happier if they work for an enlightened employer, who knows there's more to being a good communicator than tools, but that's not always an option.

The split between theory and practice may always be with us, but in our continued discussions we may find ways to address it successfully in our programs. Asking our students for their ideas is a good way to start.

Resistance in Advanced Technical Communication Classes for Majors

Jack J. Jobst Michigan Technological University

My focus will be on resistance to theory as expressed by advanced technical writing students. My experience has been that the majority of these students do *not* enjoy reading or discussing an assigned theoretical article such as Carolyn Miller's "What's Practical about Technical Writing?"

In this paper I reported the results of the following small study designed at finding out why students resist reading theory. Even though I anticipated that students would not like reading the article by Carolyn Miller listed above, I assigned it in my advanced class early in the fall semester. After a discussion of the article, I distributed a short questionnaire in order to quantify general reactions not only to the article, but also its function in a technical writing program. I will used a Likert scale with such questions as

- I enjoyed reading this article.
- I enjoyed discussing this article.
- I felt this article was too hard for me to understand.
- I felt this article was irrelevant to my education as a future technical writer.

I also collected some demographic information to check on a possible correlation between the students' answers and their backgrounds. For example, it was possible that I might discover that students with GPAs that fall within a certain range generally dislike such articles. Or I might have found that students who are under 21 are more likely to dislike such articles. I might also have found that older students are better able to see how an understanding of theory could work in industry.

The results of this little research study should provide some insight into teaching such articles in the future. It will help define the prejudice that currently exists towards theory. I expect to make suggestions on how we might diminish this problem.

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What's the Balance: *Technical* Communicator or Technical *Communicator*?

Sherry Burgus Little San Diego State University

What I'm talking about today is the familiar question: How much technical knowledge should technical communicators have? When developing a technical communication program, program developers need to determine how technical their programs will be. In my part of the country, for example, the prevailing philosophy for many years was that you could take technical people and teach them to write more easily than you could take trained communicators and teach them the needed technical information. A statement I heard from more than one of my advisory board members, a board composed entirely of technical publications managers (mostly male) from throughout the county who represented many different kinds of firms, was, "It's easier to take a technician off the line and teach him to write than to hire an English major and teach her the technical information." The gender-specific pronouns might indicate an additional bias at work here.

Ads for technical communicators across the country scream for knowledge and sometimes expertise in a wide range of computer software, and usually it is not only knowledge of production tools for technical documents such as FrameMaker or PowerPoint or HTML but also knowledge of and again sometimes expertise about the scientific and technical subjects about which technical communicators write. Again, another local example, a program has floundered preparing students to be technical communicators but providing them with no technical background. The students in this program languished for jobs, while students in the program at San Diego State University, which required technical backgrounds, usually had job offers before they had completed the program. I received many calls from potential employers looking for employees, and I usually had a list of job openings available, sometimes as far away as Seattle and San Jose.

To refresh my knowledge about the job market, I recently conducted interviews with two technical communicators who had just undergone job searches to refresh my knowledge about the job market. I also interviewed an outsourcing job placement office. Neither of the two technical communicators was inexperienced, but both had less than five years' experience. They provided two very different assessments of how much technical knowledge technical communicators should have, but both also stressed that job requirements were industry specific. The first technical communicator called himself a "technical writer Webmaster," and he told me his supervisor was known as a "knowledge manager." Also working with him was an "information architect," who edited highly technical documents on system configurations. He indicated that in his position the subject-matter expert actually initiates the prose, and in some ways he described his job as a high-end publisher, expert in Web and multimedia communication. He suggested as basic needs a knowledge of UNIX and operating systems, Framemaker, HTML, SGML, or better yet XML, which replaces all of the above. He added that his firm is the dot in dot-com, having invented UNIX and made the Internet possible, with 60% of Internet

windows in his firm's computers. He did not, however, mention Al Gore. He added that technical communicators like him are expected to know some scripting languages, depending on the environment, like Java, C, and/or Windows C++. He describes a position often referred to as a hardware technical writer, editing writing by engineers for engineers. This is the type of job for which prospective employers have told me, "I want an engineer who writes like an English major."

At the other extreme is what is referred to as a software technical writer or an end user documentation writer, writing basically for nontechnical audiences. This type of position does not demand a high level of technical knowledge, a fact corroborated by the placement office I also contacted. A representative of this firm said, "Employers want someone who understands how to operate software or hardware, but not to program. If you have a technical background, that is fine, but not necessary." However, the respondent added, if two people are competing for the same job, the one with the technical background will probably land the job. The technical writers concurred with this statement, mentioning that basically a writer would need to know how to operate production software. However, in many such positions, the technical writer works with a team of editors and publishers who do the production work for the writer.

The second writer I interviewed was a software technical writer, who reported having to take a grammar test, being asked whether she could work in a Windows environment, and whether she knew RoboHelp and HTML. She also had to have at least a Bachelor's degree in either English or journalism, but she mentioned her science and math background was considered a plus. Both reported that there is a great deal of tension between technical writers and subject-matter experts. They used such tropes as glorified secretary and servant to describe the imbalance of the relationship between the writer and the subject-matter expert, and both emphasized that knowledge of technical information was essential if the writer wanted to establish a degree of technical authority and expertise. Both reported that the salary would be cut in half for those positions requiring less technical knowledge.

There is nothing much new here, actually, despite the galloping advance of technical knowledge; the software or languages may change, but the situation doesn't seem to. Certainly the essential lesson here for program developers is that technical communicators need both technical information and skill in communication. The problem with binaries is of course that they frequently oversimplify: it is not *Technical* communicator or technical *Communicator* but *Technical Communicator*. Program developers must assess the need for and the amount of technical background in their programs, either as a means to refresh programs or begin new ones. Such well-known but little-used strategies as needs analysis studies and advisory committees are vital resources for keeping and making programs successful, as is active participation in national and international professional technical communication programs. Often, limited perspectives about just what technical communication is can have negative effects on successful program planning. I am reminded of an essay *The Technical Writing Teacher* (now *TCQ*) written long ago by John S. Harris, one of the founders of the discipline of technical communication. He wrote of the difficulty of defining technical communication and compared it to the story of the three blind men describing an elephant, each dependent upon the part of the elephant he was touching. Knowing what is happening in technical communication from an expanded participation in the worldwide technical communication community can open possibilities that might be overlooked. I suppose that is why we are all here.

Collaborating with Student Interns and Graduates to Develop a Research-Based Curriculum in a Professional Writing Program

Nicole Brown Purdue University
Graham Smart Purdue University

As professional writing programs[1] proliferate around the country, those of us responsible for designing curricula face important decisions about course content and pedagogy. These decisions are complicated by recent research claiming that work place writing is deeply enmeshed, in locally specific ways, in the organizational culture, work activities, and socio-technical practices of professional environments (Dias, et al, 1999). Such claims underscore the need for scholars in professional writing to conduct more empirical research examining specific, local writing practices in the various types of work places for which our students are destined and to apply the findings of this research in designing curricula.

In order to develop a research-based curriculum, a professional writing program needs to draw on two types of work place research: research done by others in the field that produces findings relevant to a broad range of professional writing programs, and program-specific research that examines writing practices in local work environments that are typical of those in which a particular program's graduates find employment.

Of course, the call for more empirical research raises issues of access, time, and funding. It is arduous to cultivate the relationships necessary to gain access to work place settings; such research makes large demands on the time of faculty, who inevitably have many other commitments, and it is difficult to obtain the necessary funding. To mitigate these constraints, we propose a particular type of curriculum-centered research methodology in which:

- the people teaching in and designing the curriculum for a professional writing program conduct the research;
- the research examines writing practices in local work place settings representative of those in which the program's graduates will be working;
- student interns and graduates are asked to act as surrogate ethnographers in their respective work sites and to share their findings; and
- these findings are used to assess and develop the program's curriculum.

Such a curriculum-centered research methodology begins by (a) identifying the writing situations, tasks, and technologies that graduates from a professional writing program face when they leave school and move into different work places and (b) determining how well the program is preparing its students to succeed as writers and innovators in these types of work places. In order to accomplish this, student interns in

[1] In referring to programs in professional writing, we intend to include similar programs that go under other names such as technical communication and professional communication.

and recent graduates from the program are asked to analyze their work place experiences through the lens of three questions:

- What kinds of projects are you being asked to do in your work?
- Thinking about these projects, can you identify specific abilities or types of knowledge acquired in our professional writing program that are useful to you? If so, how are they useful?
- Again considering these projects, can you identify any specific abilities or types of knowledge you wish you had acquired in our professional writing program that would have been useful to you? In each case, do you think this ability or knowledge is something that could conceivably be learned in school (as opposed to something you could only learn on the job)?

As these questions are answered, the findings can be used to assess the program's curriculum and to develop it by redefining course goals and activities in the light of new understandings of the work place writing practices found in the types of sites our graduates will be entering.

To come back to the constraints mentioned earlier—the constraints of access, time, and funding—a curriculum-centered research methodology such as the one described here has a number of advantages. First, and obviously, collaboration with student interns and graduates provides ready access to a range of different work sites. Second, since those of us in the field are already involved in curriculum development and teaching, such an approach allows us to merge this work with our research agenda, thus utilizing our time as efficiently as possible. Finally, funding requests for curriculum-centered research can be framed as either research-oriented proposals, curriculum-development proposals, or proposals for job-placement and retention initiatives.

In addition to these advantages, we see such a curriculum-centered research methodology as an opportunity to include our students and graduates in curriculum development, thereby giving them greater agency in our programs.

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Technical Communication and Corporate Training: Pedagogical, Ethical, and Practical Challenges

Gerald Savage Illinois State University

Unless the professional lives of my former students are unaccountably unique, I expect you will confirm that many of your own former students find themselves developing materials that will be used in workplace training situations. You are undoubtedly aware that a number of technical communicators not only develop such materials but serve as trainers themselves. In fact, according to a 1999 survey of STC members who work as independent contractors or temp agency employees, 57% produce training materials for their clients and 43% do training work for their clients (STC, 29). The other side of the coin is that full-time professional trainers commonly have to develop their own training documents. Indeed, the majority of students in our Advanced Technical Writing course at Illinois State University are industrial technology majors, whose professional goals are to work as industry trainers or as teachers of industrial technology in secondary and postsecondary education programs.

These two categories of professionals too often find themselves I believe in professional situations for which they have not been adequately or appropriately educated. The rhetorical particularities of training are neither part of the education of technical communication students nor of the pedagogical lore of our discipline. So lately I've been asking myself as well as colleagues like those joining me on this panel, what is training? Does it entail the same methodologies and rhetorical principles as technical communication? Fundamentally, I'm concerned that a professional activity in which a significant number of technical communicators engage is so seldom a component of our research and even less a component of our textbooks or our pedagogy. Do we believe that anyone having proper education in technical communication should be equally competent as a trainer? Or do we believe that training education involves competencies that should be provided by other disciplines—vocational education, for example?

Moreover, many of you may already be uneasy about the term "training" and its association with vocationalism, or worse, with militaristic behavioral conditioning. We may be concerned that corporate training methodologies attempt to reduce theoretically grounded competencies and knowledge to rote learning, "knowing the drill," and robotic models of efficiency. It seems to focus on skills and the cultivation of efficient job performance in ways that seem to involve no regard for social consequences nor concern for the trainee as anything more than a unit of productivity.

Few of us would be so cynical as to suggest that all corporate training practices, or even most of them, could be characterized as cold-hearted efforts to program human behavior. Yet, if training focuses primarily upon skills and job performance, in what context can we appropriately engage in critical dialogues about the ethical and social consequences and responsibility for training-generated behaviors? If a great deal of corporate training involves practices that we believe are rhetorically and socially questionable, what responsibility should we have to graduates of our programs whose jobs require them to engage in practices for which we have done little or nothing to

prepare them? Are robotic training methods the only effective way to meet industries' needs for new or updated skills for their employees? If there are alternatives to what we regard as unsound training methods, why aren't we making these alternatives part of technical communication education?

Indeed, some leaders in the corporate training field now are defining their practice in terms of education and seeking ways to adapt or develop appropriate learning principles and values for the unique needs of adult workers in workplace learning situations. Because these needs and situations no more appropriately correspond to traditional academic learning contexts than to military drill fields, some people in the training profession now pursue a philosophy that emphasizes performance-based learning and the need to effectively achieve "transfer-of-learning" from the learning situation to performance in the workplace. Those who embrace these perspectives sometimes refer to their practice as performance development rather than training (Carliner, Hile, Hoeniges).

As I learn more about this problem more questions arise. For example, are the metaphors we currently privilege in identifying technical communication audiences—"readers" and "users"—really appropriate to the complexities of the performance development context? What exactly are the similarities and differences between technical communication and training/performance development? What cognitive dissonance is involved as technical communicators, performance developers, and their industry employers or clients attempt to articulate problems, values, solutions, and expectations?

Here's another dimension of this concern. Many of your students, like the graduates of our master's program in professional writing at Illinois State University, probably find jobs in two-year colleges. Such institutions are often approached by corporations to provide specially tailored training seminars, workshops, and short courses to meet the particular needs of their workforce. Yet we do virtually nothing to prepare our writing program graduates to meet such needs. Indeed, several of our graduates who have found themselves in such situations (occasionally at my encouragement), have expressed frustration with the experience. What exactly do we know about designing training to effectively meet specific, often unique, needs in nonacademic settings? Can we help our students prepare for such work without compromising our commitment to socially responsible practices without sacrificing broader humanistic principles to short-term goals measured in terms of efficiency and productivity?

Joining me on this panel are four people (Julie Hile, Glen Hotz, Stephanie Kratz, and Jenna Van Dyne) who, because of their backgrounds in industry, performance development, and community college missions, provide multiple perspectives on the intersecting roles of technical communication and training. What they offer as well are challenges which I believe go well beyond simply repackaging existing educational content. The challenges may include re-thinking some of our current certainties, seeking new interdisciplinary alliances, and exploring new territory in our research.

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Technical Writers and Trainers as Facilitators of Change

Glenn N. Hotz American Commercial Barge Line, llc

Effective technical writing/training in my organization involves a model of performance that goes beyond traditional ideas about documentation and passive training methods. It involves a practice which, in a single word, I would call facilitating. Documents are part of it and new or changed behaviors by people in the organization are part of it, but traditional communicators or traditional trainers, whether alone or working together, will not be able to achieve what we ask of them in our organization. Essentially, the model we have found successful and that we expect our technical communicators/trainers to be able to implement involves the following:

1. Technical communicators/trainers need to know how to enter and learn an organization. The technical communicator/trainer needs to become part of the organization and to become a change agent.

- Technical communicators/trainers need to analyze and understand the organizational structure and the internal political nature of each organization.
- Being a change agent is not simply a neutral communication practice nor a neutral teaching practice, but a political practice.

2. All materials—texts, training implementations—must facilitate changes in values, thinking, and action at every level of the organization.

3. Technical communicators/trainers are really facilitators who engage stakeholders within the organization in writing documents.

- Conventional notions of documentation or training as packages created by specialists in technical writing or training are 180 degrees off the goal of facilitated performance change.
- The technical communicator/trainer must be a facilitator who allows a core team of stakeholders to address ownership and political barriers that may exist and develop a document that captures the language and thinking of the team.
- The technical communicator/trainer is accountable for facilitated change, not simply for a well-crafted document or training package.

4. Technical communicators/trainers should encourage industry managers to think of them as facilitators of change, not as documentation or training package developers.

- Technical communicators/trainers should be able to propose specific strategies, based on their knowledge of the particular organization's culture and goals, for facilitating change.
- Technical communicators/trainers should expect to have direct access to the stakeholders in the organization whose endorsement is necessary for change to occur.

- Facilitation means helping stakeholders collaborate in defining the need for change and in effecting change.

The questions I would ask participants in this meeting are these:

- Are the skills I'm describing here unique to my industry or are they applicable generally, across the technical communication field?
- Is it fair for me to ask technical communicators to bring to a job in my organization the kind of skills I've outlined here?
- Is it appropriate for me to ask technical communication programs to include education in these abilities as part of the technical writing curriculum?

The Extension of Technical Writing into Performance Consulting: The Hile Group as Case in Point

Julie S. Hile The Hile Group

Perhaps the trouble for academic programs that teach workplace writing begins with the term "technical communication." Perhaps the trouble grows with those programs' focus on the teaching of writing rather than on the development of professionals who bring complex, strategic writing/thinking processes into work communities.

As a writer and teacher who has made her living for more than ten years consulting in for-profit and not-for-profit organizations, I see my work straddling the worlds of technical communication and training. As principal of the Hile Group, a three-person shop whose practice takes us into numerous domestic and multi-national organizations each year, I see the world's need of the unusual blend of composition and learning that we bring to document design, performance improvement, and organizational change. As an employer of technical writers, I have experienced the significant learning curve for the writers with whom I work—from new program graduates to income-generating writer/performance consultants.

The Hile Group's writing—applied most often in safety/health and operations functions—begins with the understanding that the book we create during the course of a project is incidental compared to the more significant enhancements we effect in knowledge, processes and systems, and relationships. The project is designed with a commitment to deep collaboration across a core team of associates—people who can speak for colleagues who have a stake in the project's outcomes. As writers on the project, we influence the representatives' selection as much for the network in which they credibly walk organizationally and for their particular professional growth goals as for their subject matter expertise.

We navigate intense questions of authority, of safety and operations theory, of rhetoric, and of organizational psychology in addition to those of content. We teach and steward application of strategies that ensure the accomplishment of desired performance outcomes. That is, we hold ourselves accountable to the changes in human performance that we've targeted and to a beat-up, working document rather than to a crisp, neatly stored one. As writers, we design, facilitate, lead the project administratively, broker and build relationships across nontraditional lines, and more.

Further, incidental though the books may be, they are credited by our customers—one of whom, Glenn Hotz, has also proposed to join our panel—for dramatic reductions in workplace injury and property damage, improvements in job performance, clarification of inter-related systems and processes, even vastly-improved management-union relations. They enjoy within our customer organizations unprecedented speed of implementation, longevity, and all-around acceptance across constituencies.

I would like to engage CPTSC conference participants in the following questions:

- How does the Hile Group's model for workplace document design as a reformulation of the writer's role in organizations align with the model of technical communication that participants teach?
- What are the implications of writer/performance consultant-development for the technical communication programs in which participants teach?
- What can and should technical communications programs—and the students they teach—do to educate workplaces about the (often political) impact of composition processes and about such processes' potential for transforming system-wide workplace performance?

The Dual Mission of the Community College and Implications for Technical Writing Instruction

Stephanie Kratz Heartland Community College

Technical writing education in the community college is complicated by the need to serve multiple populations, including traditional college students, vocational/certificate students, and community businesses. At Heartland Community College (HCC), the Corporate Education Department serves the needs of businesses by providing workshops of varying lengths and content areas. At the same time, the Writing Program and the English Department serve the needs of traditional and vocational students through writing courses in composition, technical writing, and business writing. Since each department espouses different philosophies and is addressing the needs of a different audience, technical writing instruction varies across the College. Rarely does one course design affect the other, yet I believe that conversations between departments could help the College resolve some of the contradictions that accompany its dual mission.

Corporations often approach HCC with specific requests for "just in time training," or skills-review within a limited time frame. According to HCC's Director of Corporate Education, corporations often request instruction in technical and business writing and occasionally in composition and customary English usage. For the Corporate Education Department, such requests are business-as-usual. Corporate Education then designs a training workshop for the company based on the employees' needs, drawing upon a network of trainers which may include faculty and/or Outside consultants. Such workshops are very different from the College's technical writing credit-bearing courses, based in the Writing Program, which must conform to the academic calendar and meet time, workload, and content requirements for accreditation.

For writing program administrators and corporate education professionals, the requests of businesses to provide "just in time training" are not equally legitimate. Whereas corporations' requests for "just in time training" are routine for the Corporate Education Department, our Writing Program is often unable to provide businesses with what they want. This apparent contradiction is rooted in the clash of academic and corporate cultures. Corporate Education fulfills the immediate needs of businesses that request skills training while the Writing Program seeks to prepare students in a broader background of writing process theory and social rhetoric. "Just in time training" sets up a conceptual barrier for us in academia because it is a contradiction of what we believe. Yet, however unreasonable such corporate requests may seem, it may be equally unreasonable for academicians to expect to press corporations into instructional models that they have not requested and can't accommodate. Thus the College is faced with the challenge of maintaining the program's integrity while at the same time meeting the real needs of the community.

Issues to Consider

- Is there a more appropriate way for community colleges to respond to emerging needs in business and industry?

- Does it benefit anyone if we leave the response to those needs to people who have little commitment to the profession and who will simply supply the demand with contracted trainers who may or may not be well qualified or have a professional commitment to providing training that the profession would endorse?

Reflections From the Conference

Our discussion at the workshop focused on the fact that critical thinkers need to be in an uncomfortable, complicated place in order to progress in their thinking. Students entering composition classes at HCC often find themselves in that position. Typically, students expect to receive templates that direct them "how to write" well while our composition faculty expect students to think critically about their rhetorical situation, audience, tone, assumptions, organization, and writing process. A similar clash of expectations occurs when corporations contact the writing program—rather than the Corporate Education Department—for in-house writing instruction.

As discussed by both participants and presenters during our CPTSC conference session, community colleges can take the lead from businesses such as The Hile Group who challenge corporate employees to think about how writing can be an agent of change rather than simply providing templates for writing and skills-training courses. Students must be challenged to think critically rather than to just receive information and return it—unchanged—to their teacher for evaluation. Teachers at all levels of education must work with their students to determine how the students can apply critical thinking skills in their future endeavors which may well include producing training documents.

So regardless of who is teaching students—be it composition faculty or Corporate Education consultants—and regardless of the identity of the students—be they community college students or corporate employees—teachers/trainers face the ethical responsibility of challenging their students to wrestle not only with words on a page but with how those words can influence others and bring about change.

One Perspective: Blurring the Distinction between Writer and Trainer

Jenna C. Van Dyne

Illinois State University Graduate Student
Corporate Trainer

In a recent round of discussion on an American Society for Training and Development chat list, corporate trainers discussed the diverse skills they needed to do their jobs well. Requests for assistance and advice evidenced the trainers' concerns about their writing skill levels. In my own position as a corporate trainer I found myself training in classrooms three days a week and writing the other two. Handling new projects meant not only training the participants but also developing the materials that would be used. At the same time, existing materials needed updates or corrections to remain current with policies, procedures, and technology. The reliability of such information professionally affected the training department to a large degree. Consequently, writing and updating training-related documentation became the primary responsibility of the training department. Our role as trainers had expanded to include information management.

There were obstacles to writing within a training environment, though. The roles of writer, educator, and facilitator competed for our limited time. Assessment of training programs is vital, especially in a politically charged environment where the bottom line counts, but my background provided little assistance with formal assessment of textual materials, particularly those intended for training settings. As the diversity of training needs and related written materials increases, management of training and documentation in terms of accuracy, efficiency, and policy becomes a greater concern. Our written materials included training manuals that sometimes doubled as policy or procedure texts and contained technical and/or soft skills information, email and other computer related training text, training guides, handouts, and PowerPoint slides. The ability to fluently move among these genres and to integrate their use was a limitation within my own and other trainers' backgrounds. Combined with an insufficient knowledge of development and design elements for different genres, our skills were increasingly challenged for the level of competence we wanted to perform within.

These conceptual obstacles were frustrating my attempts to write effective materials, as my job increasingly demanded that I work across the lines dividing trainer, writer, and educator. In particular, the job called for greater amounts of writing, much of it very technical in nature, until I decided to begin a Master's program in professional writing with the goal of more effectively addressing these needs. I bring to the field of professional/technical communication these questions:

- Must the skills of trainers, technical writers, and educators be learned in separate academic programs?
- What changes would have to be made in teaching the skills and information that characterize these roles individually in order to prepare someone like me, who will have to combine them in the role of a corporate trainer?

Electronic Support Systems for Technical Communication Teachers

Stuart Selber Pennsylvania State University

This presentation provided a rationale for electronic support systems and an overview of how such systems can be designed to meet the needs of technical communication teachers and programs.

Programs in technical and scientific communication often have a difficult time supporting teachers, particularly graduate students and lecturers working in computer-based classrooms. Although a course in teaching technical communication at the college level is often required for first-time instructors, extended pedagogical support rarely exists, primarily because providing such support requires the time and attention of already overworked faculty. But the ongoing support of technical communication teachers can occur in organic ways that are often more productive than traditional top-down approaches. One way is to develop an electronic support system on the World Wide Web that captures and leverages the pedagogical abilities of a teaching community. Importantly, an electronic support system should not be considered a quick technical fix to the administrative problem of helping technical communication teachers, but one element in a program that provides a wide range of assistance in different forms.

Rhetoric and the Arts of Web Design

Geoffrey Sauer University of Washington

In 1998, the English Department at Carnegie Mellon built an Internet server In 1998, the English Department at Carnegie Mellon built a network server (english.cmu.edu) to serve both local department intranet needs (events calendars, course Web sites and department news) and to represent the department's work to outside internet readers. As part of its plan to bring content to the site, the department agreed to offer free lifetime accounts to its undergraduate majors and graduate students.

We did this (in part) because we had found that students in our professional programs underused campus facilities for the creation of Web portfolios. Interviews revealed that the more Web-savvy students felt alienated from university Internet publishing options—which serve students while enrolled, but eliminate people's accounts (and remove student Web sites) soon after graduation. Carnegie Mellon students in professional programs are career-oriented, and in interviews had revealed that they instead planned to postpone personal Web portfolio production until after they had graduated, when they could create (they believed) permanent home pages using their employers' Web sites.

Following up with more interviews, we found (with very little surprise) that very few of our alumni had actually *followed through* with such plans. The pressures of new careers and the widely varied Web publishing environments did not encourage alumni to represent themselves and their work online. By encouraging our students *while students* to create web versions of portfolios that they could maintain and extend even after graduation, we removed one of the obstacles to sincere work by our more enthusiastic students, and offered options to integrate such work into their studies of genre, audience and accessibility.

This led those of us who advised graduate students in Carnegie Mellon's Master's in Professional Writing and Master's in Communication Planning and Design to discuss issues which arise in the creation of the Web portfolio. These differ in several significant ways from the print portfolio:

- A print portfolio needs to create a brief overview of experience in document-production. A Web version needs to produce a succinct overview, but one that is best complemented by the option to allow readers to examine particular elements in greater depth.
- The narrative devices used to organize Web portfolios differ significantly from print portfolios, requiring greater effort to produce two-tier ekphrasis (writings that flow smoothly at a surface level but that also accommodate readers who wish to follow links to learn more about interesting items). (Farkas and Farkas 2000).
- Intellectual property concerns are extraordinarily complicated, and the energy necessary to create policies to govern such a facility is far greater than any reasonable initial estimate might suppose.

This offered a persistent connection with our alumni, and allows our faculty to keep in touch with alumni via their english.cmu.edu email accounts. Providing links to examples of exemplary student work assists when recruiting for graduate programs in professional and technical communication.

The costs of such as system were almost entirely in labor. The hardware and software necessary to run a high-quality Web site are remarkably inexpensive.

As a result of CMU's successes with this system, I have suggested to colleagues at a number of schools a similar facility for their students. The costs are not great, and with an adequate content management framework the administration issues are negligible. I have found that smaller departments (and even several small colleges, including Spring Hill College in Alabama and Centenary College in Louisiana) have proven more willing to offer this than larger communities have been. This paper proposed that serious thought be given to implementing such a feature—at the department level—by technical and scientific communication programs, which are often (a) small enough to focus students into professional practice in their Web publishing experiments, and at the same time (b) very interested in representing their students' work to campus and corporate readers.

Because I plan to implement a similar facility in the next two years in the Department of Technical Communication at the University of Washington, in this paper I would like to suggest cooperation between program administrators interested in such facilities. Cooperation would facilitate this greatly; some of the greatest difficulties in offering this sort of functionality lies not in the technical intricacies of managing Internet servers, but instead such (shared) tasks as writing policies detailing the appropriate use of such facilities, and writing documentation for students and faculty in how to publish using the site.

People interested in joining an informal consortium of programs planning to develop such facilities should contact me at <geoffs@u.washington.edu>, and we will develop a mailing list to discuss our experiences with integrating content management and knowledge management technologies into our programs.

Models for Strategic Program Development: Embracing Digital Media in Engineering

Dianne Atkinson Purdue University

New models for program development in technical and scientific communication are imperative. Demand for communicative expertise continues to expand rapidly yet traditional approaches for supporting student competence fall far short of expectations.

In the case of programs based in engineering schools, a recent discussion by Linda Bergmann [May 2000] provides, once again, ample evidence of the myriad ways in which writing pedagogy and engineering practice remain disconnected despite decades-long effort to understand disciplinary differences and to enrich Writing Across the Curriculum theory. Bergmann is particularly insightful in the discussion of how technical faculty continue to pull apart technical content from the English. Essentially, technical faculty oversimplify the conceptual work of expression and identify understanding as prerequisite, which is resisted—with limited success—by WAC promotion of writing to learn as an important component in technical coursework.

Only recently, project work in engineering curricula has opened up an opportunity space for teaching communication as process and as (professional) product. Because project work is increasingly undertaken in collaborative or teamwork contexts, the process is externalized: public rather than private. Support for all phases of creative problem solving and collaboration can be provided. To develop such comprehensive support we must become effective team players ourselves, in collaboration with technical faculty. In project work, we can approach actual disciplinary practice, only part of which is captured in writing to learn activities.

Project work opens up the whole range of symbolic representation: conceptual work, face-to-face negotiation, client-at-a-distance adaptation, and the various media employed to capture these meaning-making activities. As professionals in technical and scientific communication, we need to develop programs that embrace the expanding media options available to us and to our students. Specifically, we need to teach technical project management as communication. Communication can be approached not just as written documentation but as enacted interpersonal constructions.

Digital media offer us the opportunity to constructively intervene just as collaborative projects opened up teachable space for us. Web sites and videoconferencing are two examples of space that is open now in engineering and other technical curricula. Embracing such digital media is a strategic opportunity to grow new programs in technical communication for students in technical curricula.

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If You Build It, Will They Come? The Importance of Promoting Technical/Professional Writing Programs

Celia Patterson Pittsburg State University

A technical/professional writing program was established at Pittsburg State University about twenty years ago because a school with a large College of Technology such as ours seemed an ideal environment for such a program. It was believed that the program would attract at least a large number of minors from the College of Technology itself. However, such has not been the case.

Some of the blame can be attributed to the fact that the technical/professional writing program is offered as an emphasis in the English Department. Our Board of Regents requires that all emphases in a department must have the same core courses. Therefore, students in the technical writing emphasis must take 12 hours of literature and three hours of grammar. Most of the students in the College of Technology are not interested in such courses and are not willing to endure them for the sake of a minor in technical writing.

Some of the blame, however, can be attributed to the lack of promotion of the program. Although the field of technical/professional writing continues to grow apace with the demand for its graduates, a large number of people, especially students, have never heard of it, or, if they've heard of it, have no idea what it is. Consequently, our program has begun an aggressive promotional campaign. Here's what we're doing:

Beginning last semester, we distributed brochures in all composition courses and general education literature courses. We will continue to distribute these brochures every semester. We should be able to get a brochure into the hands of every student at least once, and probably several times, during their years at PSU.

We conducted a feedback session with one class that received the brochure and found that the students wanted two kinds of information added to the brochure: a definition of technical/professional writing and testimonials from graduates as to how the courses had benefited them in their careers. The brochures are being revised to include this information before their next distribution.

This semester when I distribute the brochures, I plan to make personal five-minute visits to as many classes as I can manage. I will also visit community colleges and high schools in the area to distribute the brochures. In addition, I plan to start a technical/professional program newsletter that will be distributed over the Internet to all interested community college and high school teachers in our area.

Our efforts have already begun to pay off. We are receiving more inquiries about the program. We have also gained several new students to the major. These results show us that if you build a program, they won't necessarily come. Sometimes you need to show them the way.

A Student Recruitment Model for Undergraduate Technical Communication Programs

Brad Butler Texas Technological University

Undergraduate technical communication programs are found across the spectrum of American colleges and universities, from the two-year community college to the tier-one research university. Technical communication programs find themselves in the enviable position of being in a field where demand exceeds supply. The ratio of jobs to graduates in the workplace is greatly in favor of our students. Why, then, do many programs have difficulties recruiting students? Why do we not produce the graduate pool needed to meet the needs of industry? One reason for this problem is that most undergraduate technical communication programs do not employ systematic and informed recruitment strategies. In this paper, I present a recruitment-strategy model based upon JoAnn Hackos's process maturity model—a procedure which will give institutions a way to enculturate recruitment and to meet program and student needs. This model is informed by research I conducted in the spring of 2000.

With a fellow student, I conducted two studies that shed light on recruitment issues that affect undergraduate technical communication programs. While these studies are not the focus of my paper, they do inform the theories that I advance. The first, a qualitative survey of directors of undergraduate technical communication programs at American colleges and universities, provided a strong correlation between programs that are growing and those that have an active and organized recruitment effort in place. The second study, a quantitative study of students enrolled in the technical writing service course at Texas Technological University during the spring of 2000, showed how little awareness most university undergraduates have about the technical communication program at our university and about the technical communication field in general. Before enrolling in the TTU technical communication service course, only 20% of students surveyed were aware of the undergraduate degree option. These results emphasize the need for more effective outreach to our pool of potential students.

The field needs go beyond the haphazard recruitment methods that we currently—we need to establish recruitment as one of our core values. But simply stating that recruitment needs more attention, needs to be more essential than its current "ad hoc" position, will not make it happen. Recruitment advocates must do a good job of explaining how it adds value to the field and to individual departments. To this end, I present a recruitment model based upon JoAnn Hackos' work with publications departments that fits the field's core values.

Growing Technical Communication Programs through Recruiting

Bruce Maylath University of Wisconsin-Stout

As industry has seen the need for an increasing number of technical communicators, universities have responded by increasing the number of programs and graduates in technical communication. However, students—particularly high school students—are often unaware that careers and programs in technical communication exist. In some ways, technical communication is invisible to much of the public, especially the young public. Hearing the term "technical communication," some persons confuse the field with others such as telecommunications.

This paper lists recruitment strategies that technical communication programs can use. Its purpose is to prompt discussion at the CTPSC conference in response to the following question: Which strategies bear the most promise for recruiting sufficient numbers of students to supply the growing need for technical communicators?

Recruiting strategies:

- Staff booths at college fairs.
- Accompany admissions staff on high school site visits (where affordable).
- Attend parent/teacher conferences at local schools.
- Conduct Campus Preview Days.
- Mail out a program brochure or folder.
- Post a program Web page.
- Air radio or television ads.
- Contact high school English teachers through the newsletter and journal of the National Council of Teachers of English state organizations.
- Send mailings directly to English departments. In particular, establish telephone or personal contact with heads of the state's 10 top high school English and Tech Prep programs.
- Publicize the program through the National Council of Teachers of English (NCTE) special interest group for technical communication.
- Publicize the program through the Society for Technical Communication's (STC) education Web page and e-mail listserv and through its local chapter newsletters.
- Link the program's Web page to the sites for STC, NCTE, and state CTE.
- In cooperation with campus foundation office, distribute letters and brochures announcing program to managers and human resources personnel at firms in area.

Council for Programs in Technical and Scientific Communication 27th Annual Conference

Program

Thursday, 19 October 2000

4:00 Registration and hors d'oeuvres

8:00 Welcome

Robert Sedlak, Provost, University of Wisconsin-Stout

Keynote address

Ty Herrington, Georgia Institute of Technology, Troublemaking and Troubleshooting: Implementing a Course for Cross-global, Cross-curricular Development

Friday, 20 October 2000

8:55 Welcome

John Murphy, Dean, College of Arts and Sciences, University of Wisconsin-Stout

Susan Thurin, Chair, Department of English and Philosophy, University of Wisconsin-Stout

9:05 Panel Discussion

Robert Johnson, Joseph van Oss, and David Tews

What Industry Looks for in Technical Communication Graduates

10:15-11:15

1A. Program Visions and Re-Visions

Johndan Johnson-Eilola. Writing at the End of Text: Rethinking Production in Technical Communication

Robert R. Johnson. (Deeply) Resisting Arrest: Beyond the Either/Or of Information Technology in Technical and Scientific Communication Programs

Doreen Starke-Meyerring. Re-visioning and Repositioning Technical Communication Programs in Digital Spaces

1B. Issues Facing Master's Degree Programs

Margaret Hundleby. Timing is Everything: Integrating Low-Profile "Concentration" Courses into a High-Profile Master's Degree

Sean Williams and Barbara Heifferon. Reflective Instrumentalism as a Possible Guide for Revising a Master's Degree Reading List

Tracy Bridgeford. Thoughts on Designing a Master's Certificate Program

Frances Ranney. The Greater the Resistance, the Higher the Voltage? or, How to Know When to Pull the Plug on a Technical Writing M.A. Program

1C. Processes and Problems in Program Assessment

Roger Munger. Untangling a Jigsaw Puzzle: The Place for Assessment in Program Development

Marjorie Rush Hovde. Assessing Existing Engineering Communication Programs: Lessons Learned from a Pilot Study

Nancy O'Rourke. The Thorny Issue of Program Assessment: One Model for One Program

Brenton Faber. What Can Technical Communication Programs Learn from Corporate University?

Michael R. Moore. Participatory Design and Technical Communication: Challenges and Opportunities in Programmatic Assessment and Evaluation

11:30-
12:30

2A. Program Identity 1: To Niche or Not to Niche?

Stephen Bernhardt. Against the Niche: On NOT Over-Specializing Our Technical Communication Curricula

Kevin LaGrandeur. Should We Develop Specialized Technical Writing Programs?

Carolyn Rude. Should We Develop Specialized Technical Writing Programs?

Pete Praetorius. What About Writing?

Planning and Building Programs: Innovations and Investigations

Jo Allen. Compact Planning and Program Development: A New Planning Model for Growing Technical Communication Programs

William O. Coggin. Building Consortia in Scientific and Technical Communication

Jeff Grabill. Sites of Critical Action for Technical and Professional Writing: Community, Corporation, Curriculum, Computing

Kelli Cargile Cook. A Layered Literacies Frame for Articulating Program Goals

Craig Hansen. Directing Growth and Growing Directors: Developing Leaders for Technical Communication Programs

1C. Strategies for Course and Curriculum Design

Dale Sullivan. Why Do Students Entering a Major in Technical Communication Resist the Introductory Course?

Betsy Aller and M. Sean Clancey. Creating Communication Modules for an Engineering Enterprise Initiative: Programmatic and Rhetorical Considerations

Karla Saari Kitalong. Usability Testing and User-Centered Design in Technical Communication Programs: Current and Emergent Models

Deborah S. Bosley. A Proposal for the Marriage of Technical Communication and WAC/WID

12:30 **Lunch**

2:00 **3A. Program Identity 2: Do Program "Homes" Matter?**

Marjorie T. Davis. How the Institutional Home Affects a Program

Karen R. Schnakenberg. Why and How Our Institutional "Home" Matters: Strategic Program Planning in a Specific Setting

3B. Theory and Practice, in Practice

Nancy Allen. Here Comes That Song Again: The Theory and Practice Blues

Jack J. Jobst. Resistance to Theory in Advanced Technical Communication Classes for Majors

Sherry Burgus Little. What's the Balance? *Technical* Communicator or Technical *Communicator*

Graham Smart. Collaborating with Student Interns and Graduates to Develop a Research-Based Curriculum in a Professional Writing Program

3C. Technical Communication and Corporate Training: What Educators and Trainers Can Learn from Each Other

Gerald Savage. Technical Communication and Corporate Training

Julie Hile. The Extension of Technical Writing into Performance Consulting

Glenn Hotz. Technical Writers and Trainers as Facilitators of Change

Stephanie Kratz. The Dual Mission of the Community College and Implications for Technical Writing Instruction

Jenna Van Dyne. Blurring the Distinction between Writer and Trainer

3:15-
4:15 **4A. Program Identity 3: Diversification Begins at "Home"**

Ann M. Blakeslee. A Case for an Integrated Approach to Program Development

Stuart Blythe. The Value of Seeking Interdisciplinary Models for Smaller Professional Writing Programs

Ann S. Jennings. The 21-Course Undergraduate Program: Strength through Diversification

Pamela S. Ecker. The 21-Course Undergraduate Program: Strength through Diversification

4B. Using New Technologies to Improve Teaching and Learning

Stuart Selber. Electronic Support Systems for Technical Communication Teachers

Geoffrey Sauer. Using Web-Based Portfolios to Assist Technical Communication Program Development

Dianne Atkinson. Embracing Digital Media in Engineering

4C. Promoting Programs and Recruiting Students

Celia Patterson. If You Build It, Will They Come? The Importance of Promoting Technical/Professional Writing Programs

Brad Butler. A Student Recruitment Model for Undergraduate Technical Communication Programs

Bruce Maylath. Growing Technical Communication Programs through Recruiting

7:30-
9:30 Annual banquet

Distinguished Service Award

Mary Coney, University of Washington

Distinguished Service Award 2000

Selection Criteria[1]

Persons nominated to receive the Distinguished Service Award will in general possess the following characteristics and attributes:

1. They must be members of CPTSC at the time of their nomination.
2. They should be members of long standing in CPTSC with at least seven consecutive years of membership sometime during their careers. The DSSC can recommend exceptions to this rule but only for members of extraordinary merit.
3. Nominees must have made significant long term contributions to programming in technical communication. It is expected the DSSC will consider only members who have established significant careers in technical communication programming, working both on the local and the national levels. The key question will be, Have technical communication programs been significantly affected in a positive manner by this person's career?

Honorary Distinguished Service Award

The DSSC of the Executive Committee with the advice of the DSSC may from time to time choose non-members to receive an Honorary Distinguished Service Award. Such honorary recipients should have made significant contributions to CPTSC or to programming in technical communication. This contribution could be either as a career long emphasis or as a significant special contribution.

2000 Recipient

Mary B. Coney

To put it in a sound bite: Mary B. Coney is a class act. She's classy. This label partly reflects her research in realigning classical rhetoric for new purposes in a world transformed by information technology. Her publications have set the standard for research in reader response theory, in theories of knowledge as they affect technical documentation, and in technical style. Her writing is highly readable, highly quotable, and widely read. In a session yesterday, someone asked: "Who speaks for writing?" The easy answer: Mary Coney does.

She is also a classy teacher, demanding as well as cherished. She has been a major force in the growth of the technical communication program at the University of Washington and in the growth of each student she has worked with in that program. Her students are well off because of her.

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[1]Approved Austin, Texas, October 1997, Posted to the Web site March 1999.

In addition, Mary is a classy professional, in the broadest sense. She always acquits herself well in a variety of forums. Her service to CPTSC is exemplary, along with service to ATTW (of which she's a Fellow) and MLA. She's also active in university-wide, as well as departmental, governance at Washington.

In all these endeavors, and more, in a variety of settings world wide, Mary Coney has set the standard for being the best in our field. For this we honor ourselves by honoring her with our distinguished Service Award.

Distinguished Service Award Acceptance Speech

Mary B. Coney University of Washington

Many thanks for this honor, for which I am especially grateful, as it comes from my favorite organization, Council for Programs in Technical and Scientific Communication—or, as it is fondly and shortly called, CPTSC. It welcomed me as a new member to our field in 1978, and I have ever since experienced that welcome anew each time I come to a meeting and see old friends and meet new ones.

At the time I joined, a second generation of scholars and teachers were entering technical communication, although few of us entered the field deliberately. Most of us (including myself) wandered in or stopped by on our way somewhere else. Some, of course, left, usually to pursue their original goals of being a critic and editor of late 18th-century poetry or becoming a technical writer and editor of late 20th-century documentation. But many of us stayed, for all kinds of reasons—job opportunity, spouses' careers, an intrigue with computers that were just beginning to influence the workplace, the new ideas created by a confluence of science, technology, and language. But I have become convinced over the years that it was, and is, a matter of character as much as anything else that binds those who stay and thrive and are here tonight in person and spirit to celebrate this moment with me.

At the risk of indulging in pedantic reductionism, I want to describe those personal qualities that match the challenges of our still budding academic field and that all of you possess in glorious abundance.

Optimism, in the face of dire predictions of failure and of palpable difficulties. Think of all those deans, chairs, colleagues, even friends and family who said, "You'll never get tenure, never get promoted to full professor, never get your own degree, program, or even an invitation to give a paper at MLA!" Ty Harrington testified last night to this experience and yet maintained her buoyant spirit—and her wonderful smile—and succeeded.

Doggedness, the ability to start over when failure happens, when everyone, at least temporarily, was right. We can be stubborn, unwilling to quit or even be discouraged after that first minute of disappointment when all our plans go south. Consider Dan Riordan and his colleagues: it took them 30 years to get a TC program at Stout, yet here it is, with happy students, a growing faculty, and supportive deans—an accomplishment the rest of us are delighted to witness.

Generosity, which goes beyond kindness of the passive sort, or lack of pettiness, spite, or unfair competition. I have in mind an actively generous tradition, one defined by support, suggestions, visits, joint projects, pats on the back. CPTSC especially reflects

this tradition: it is inclusive, glad to see new people, accepting of new ideas even when they challenge some of our favorite old ones.

Venturesomeness of the kind that distinguished the Oregon Trail pioneers from those who stayed behind in St. Louis and became wealthy selling supplies for the journey west. It is the willingness to move beyond expertise, to leave behind what's comfortable and what's safe; it is flexibility, curiosity, and, especially, courage. I have a good friend who has spent much of his academic career arguing that the Pardonner's Tale is not part of the *Canterbury Tales*. There are times I envy him and his task—it has defined borders, clear lines of scholarly arguments, and traditional kinds of proof. And I know it's significant and even fun work. But I would have been bored, which to me is worse than being wrong, or considered marginal, or even appearing silly.

Loyalty, of the kind that encourages and sustains friendship over the years. CPTSC is a place to come and get a fix of friendship that stays with us all year long. It is a loyalty that is not blind but thoughtful and committed and responsive. Think of how many of your colleagues have made the extra effort to review a tenure packet at the last minute, to read a manuscript that had been rejected and needed suggestions for improvement, to fill in for a sick colleague on a program review—all with alacrity and good cheer.

Because of these and all the traits that mark each of you in this remarkable group, we've achieved extraordinary success on many fronts: growth in course offerings, new programs, new degrees, and, best of all, student enrollment; increased industry and professional recognition; international connections, bold research resulting in new knowledge and improved practice.

As we look forward, is there any difference in character required? I see one addition—the ability to keep this tradition going in spite of this success. It won't be easy. Think of some qualities that we deal with every day at our institutions—elitism, certainty, arrogance. But we are not these. I'm confident that we'll still be out there on the plains, looking west, seeing where the river can be forded, helping the family that just lost a wagon wheel, starting new schools in the middle of the wilderness, making friends and remembering where we came from and not always sure how we're going to get to where we want to go.

It's a wonderful tradition, and you are a remarkable family of colleagues. I am proud to be one of you.

Minutes

Executive Board Meeting, October 19, 2000

1. Executive Board Members Present

Carolyn Rude, Stuart Selber, Bruce Maylath, Debbie Andrews, Pam Ecker, Steve Bernhardt, Karen Schnakenberg. At 5:30, the following members of the incoming executive board joined the group: Dianne Atkinson, Jeff Grabill, Nancy Allen, Dale Sullivan, Bill Williamson.

2. Treasurer's Report

Karen Schnakenberg presented the treasurer's report for January 1 through October 15, 2000, and reported that CPTSC is financially sound with a current cash balance on hand of $8371.00. Total membership and dues collected for the October 1999 to October 2000 dues year was $3000 (145 individual members @ $20 each + 1 institutional member @ $100). To date, 16 members not attending the Menomonie meeting have paid their 2000- 2001 dues by mail to the treasurer. Karen reported that she would send reminders to members who have not paid by the end of November.

3. Program Evaluation

Debbie Andrews reported for program review chair Carole Yee that one program evaluation—New Mexico State—had been conducted during the last year. Steve Bernhardt volunteered to share his experience with being reviewed with interested parties. A question of the currency of the current review guidelines was raised and discussed.

4. Graduate Student Discount

A question was raised as to whether or not we should consider providing funding for graduate students who work at the annual meetings. The consensus of the group was that such arrangements should be left to the discretion of the local arrangements chair.

5. Funds for Webmaster

The healthy treasurer's report led to discussion as to whether or not some funds should be used to support development of the Web site, perhaps via payment to Bill Williamson to be used for course relief. Another suggestion was to provide funds to support student work on doing scanning for the archives of the conference proceedings. The conclusion was to wait for the situation to be discussed at the all member meeting on October 21, and also for the new board to take office and have a chance to consider the best use of funds in this area.

6. Officers' Discussion List

A question of whether or not to keep the officers' discussion list was raised and also whether to include former officers on the list so that they can participate in discussions and add their experience to them. The consensus was to keep the list and include both old and new executive board members.

7. Form of Ballots

A question of whether to move toward doing voting on executive board elections to the Web from the traditional paper ballots was raised. Debbie Andrews reported that the constitution requires that the slate of candidates be "in the hands of members" 60 days prior to the close of voting. The conclusion was that a paper ballot is required by the current constitution. It was decided to bring before the membership a recommendation that we do a paper ballot to revise the constitution to allow for electronic balloting. The issue will be raised at the annual all member meeting on October 21.

8. Review of Constitution

Debbie Andrews reported that the constitution includes other anachronisms and suggested that now is a good time for review of the constitution to see what might need to be updated. It was agreed that the incoming secretary would undertake a review of the existing job descriptions and that the board would recommend to the membership that we do a paper ballot to amend and update the constitution as deemed necessary.

9. Conference Registration

Bruce Maylath reported that 77 members were registered for the conference.

10. Technology Officer

The board discussed creating an executive board level position of information officer or technology officer and concluded, following Debbie's reading of the relevant portion of the constitution that empowers the board to appoint officers for duties deemed appropriate and necessary to the organization, that the board has the authority to create the position and designate the holder of the position as a member of the executive board. The board agreed to create the position of technology officer. The technology officer will be appointed by the president, serve for an indefinite term of office, be a member of the executive board, and have responsibility for maintaining the CPTSC Web site.

11. Stationery

It was suggested and agreed that we create a template for stationery and distribute the template rather than printed stationery to executive board members to use for official CPTSC business. This will both eliminate the necessity to print and mail stationery and allow us once again to include a listing of executive board members down the side. We had suspended this practice because it meant that stationery had to be thrown out and new stationery reprinted with each two-year change of officers. The secretary was charged with obtaining/updating the existing template and distributing it to executive board members.

12. INTECOM Membership

Debbie reported on a meeting with INTECOM as part of the Forum2000 meeting in London and suggested that it is not necessary to renew our membership in INTECOM as it confers no specific benefits that we do not already receive as CPTSC and STC members, and all members of STC are automatically members of INTECOM. The board agreed to put the question to the membership with the recommendation that we not renew the membership.

13. Upcoming Conference Sites

The board affirmed that the 2001 conference would be held in Pittsburgh and discussed possible meeting sites for 2002 and 2003. Because there are a number of members interested in possibly hosting these meetings, it was decided to open discussion on possible sites to the membership at the October 21 meeting and allow discussion to develop a consensus on meeting sites.

14. 2001 Program Chair

Jeff Grabill graciously agreed to be the program chair for the 2001 conference in Pittsburgh.

15. Proceedings

Carolyn Rude raised several issues in relation to the publication of the conference proceedings. We have moved to electronic copies, but because some members had indicated that they use the proceedings as evidence in their tenure cases, Carolyn has taken the time (quite a bit of time) to format the proceedings so that when they are downloaded they print to look like pages in a bound print volume. The question was whether or not it is necessary to continue this labor-intensive practice. The board agreed to raise this issue with the membership to determine how members use the Proceedings and use that as guidance for a decision. Carolyn also raised the issue of whether we should continue the practice of allowing for revisions following the conference presentations and reported that for 1999 only about six people took the opportunity to revise. The consensus was to continue to allow for revisions.

16. Portfolio Assessment

Dale Sullivan raised the issue of whether it would be possible to start a conversation/service in which schools that use portfolio assessment could exchange portfolios. Nancy Allen suggested creating a possible forum for portfolio exchange/assessment. The board agreed to raise these suggestions at the all member meeting on October 21.

The meeting adjourned at 6:20 so members could attend the conference reception beginning at 6:30.

Written and submitted by Karen R. Schnakenberg acting for CPTSC secretary Jennie Dautermann.

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